# INDUSTRIAL EQUIPMENT NEWS

OCTOBER - 1950
VOL. [illegible] • NO. [illegible]

The Original IEN

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

## *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information

Are specifications your business or just curiosity?

IEN-9246

### SIGNALING . . Color television reproduces observed remote conditions

Source: REMINGTON RAND INC.
315 Fourth Ave., Room 1618, New York 10, N. Y.

Color television [illegible]

Power [illegible]

The camera [illegible]

IEN-9247

### HANDLING . . Power driven unloader scrapes bulk materials from a box car

Source: STEPHENS-ADAMSON MFG. CO.
231 Ridgeway, Aurora, Ill.

New machine [illegible]

This blade [illegible]

The cycle [illegible]

IEN-9248

### FASTENING . . Split cylindrical pin to key, pin, bush equipment assemblies

Source: ELASTIC STOP NUT CORP.
2228-32 Vauxhall Road, Union, N. J.

Holds to make [illegible]

The pin [illegible]

The split [illegible]

IEN-9249

### CONVEYING . . Pneumatic equipment for dry granular materials in batches

Source: CRANE CO.
836-38 S. Michigan Ave., Chicago 5, Ill.

Turbo Drive [illegible]

The unit [illegible]

For Page 49

## *WHAT DO YOU NEED?*

READER SERVICE FORM . . . Look between pages 16 and 17 or 96B and 97 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the number of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

### *From Hong Kong*

大南紡絨有限公司

•

### *Departments*

READER SERVICE FORM — Pages 16-17 and 96B-97
SUBJECT INDEX — Page 118
THE EQUIPMENT EXPOSITIONS — Page 4
NEW LITERATURE — Page 35
NEWS NOTES — Page 99
I WISH I HAD — Page 118

•

### *Our selections in this issue*

CASTING — Page 81
CONTROL — Page 19
CONVEYING — Page 5
CONVEYING — Page 49
DRIVE — Page 49
FASTENING — Page 18
GRINDING — Page 109
HUMIDIFYING — Page 21
MIXING — Page 107
PROCUREMENT — Page 89
VALVE — Page 99
VALVE — Page 17

W. E. Smith — Thomas Smith
Publisher — Editor-in-Chief

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461 - 5th Ave., New York 1, N.Y.—Chicago 5 (1546)

Give enough!

### YOUR HELP NEEDED

The Community Chest of [illegible] has a goal of $[illegible] [illegible] [illegible] [

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## NEW DEPARTURE
### BALL BEARINGS

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### SHOWS HOW TO STOP CONDENSATION DRIP

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- ✓ Basement walls
- ✓ Condensers
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### Give Greater Sales Stamina

Rigidized Metals Corporation

Sales Offices in Principal Cities

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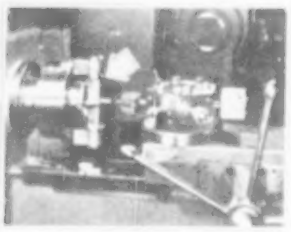
## CONVEYING . . . Vibrating trough unit for wet, dry, hot, cold materials

Source: ROBINS CONVEYORS DIVISION
370 Lexington Ave., 19th Floor, New York 17, N. Y.

IEN-9254

## CHUCK . . . Holds and indexes work without stopping the machine spindle

Source: WARNER & SWASEY CO.
5701 Carnegie Ave., Cleveland 3, Ohio



IEN-9255

## "LO-HITE" JACK . . . Hydraulic Unit for heavy lifting in confined areas

Source: THE DUFF-NORTON MANUFACTURING CO.
Pittsburgh 30, Pa.

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## Atlas 7" SHAPER

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SANDING . . Belt type machine for portable use, collects its own dust

Source: PORTER-CABLE MACHINE CO.

IEN 9263

ELECTRIC WIRE . . Nickel clad copper in round and flat wire, also in rod

Source: ALLOY METAL WIRE CO.
Pine Ave. & 11th, Prospect Park, Pa.

Sample available upon request

IEN 9264

MARKING . . Self-adhesive tape with printed face for written records

Source: WESTERN LITHOGRAPH CO.
152 E. Second St., Los Angeles 54, Calif.

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# EVERY ENGINEER

will want a copy of this BULLETIN

HANNIFIN CORPORATION

IEN 9266

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 19 OCTOBER 1950 No. 10

## The Equipment Expositions

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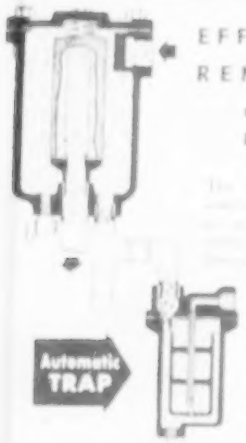


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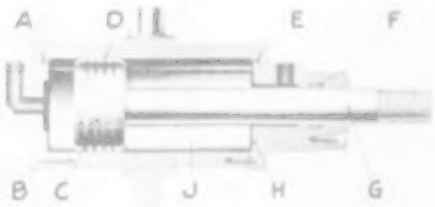
Source: HANNA ENGINEERING WORKS
1769 Eldon Ave., Chicago 22, Ill.




IEN-9279

DIE CASTING . . Zinc assemblies cast together in required multiples

Source: GRIES REPRODUCER CORP.
792 E. 133rd St., New York 54, N. Y.

All Makes of Plain, Ball, Roller Bearings are Listed in THOMAS' REGISTER "Bearings" Section. See Page 10

IEN-9280

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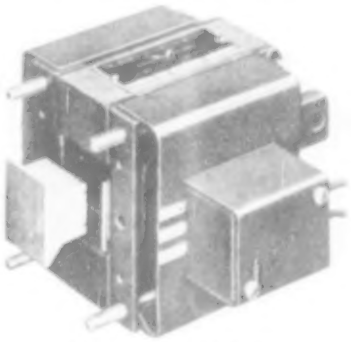

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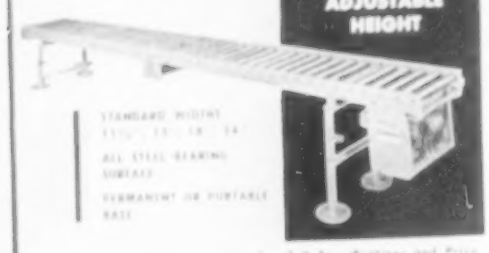

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FASTENING . . Metal thread insert in kit with tools to apply and extract

Source: HELI-COIL CORP.
47-150 35th St., Long Island City 1, N. Y.

IEN-9288

INSULATING . . Rubber pad kit to isolate vibration under a machine

Source: B. F. GOODRICH CO.
448-52 S. Main St., Akron 11, Ohio

User cuts pieces and applies them

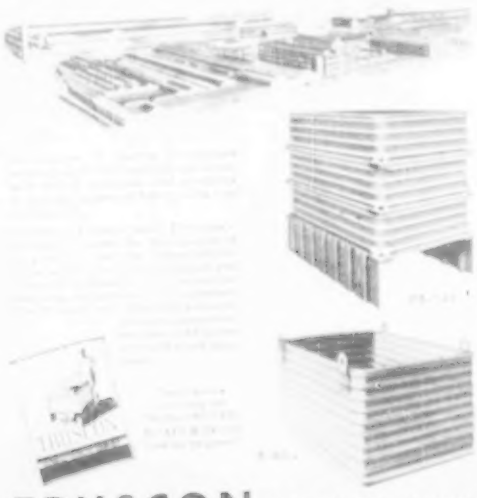
IEN-9289

MARKING . . Spring shank punch for point location in layout work

Source: BIRK MFG. CO.
1950 Main St., Stamford, Conn.

IEN-9290

**HEADQUARTERS for materials handling equipment**



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UNITED STATES RUBBER COMPANY

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**PACKAGING . . Belt type machine closes filled bags prior to sealing**

Source: EDWARD DILATUSH & CO.
50 Thomas Ave., Robbinsville, N. J.

IEN-9298

**REFRACTORY . . Crystalline compound available in brick, grain, ramming mix**

Source: BABCOCK & WILCOX CO.
25 Liberty St., Room 1013, New York 6, N. Y.

Ask for data

Bulletin R-29

IEN-9299

**SOLDERING . . Electric tool applies heat at copper wire loop**

Source: WELLER ELECTRIC CORP.
406-10 Packer St., Easton, Pa.

IEN-9301

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IEN-9303

IEN-9296

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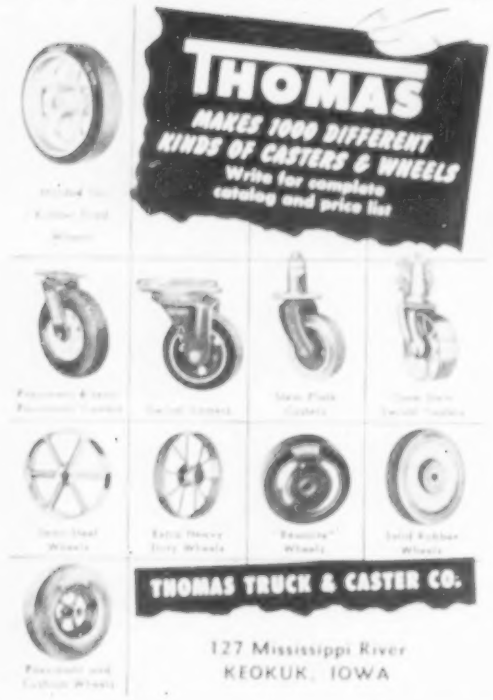
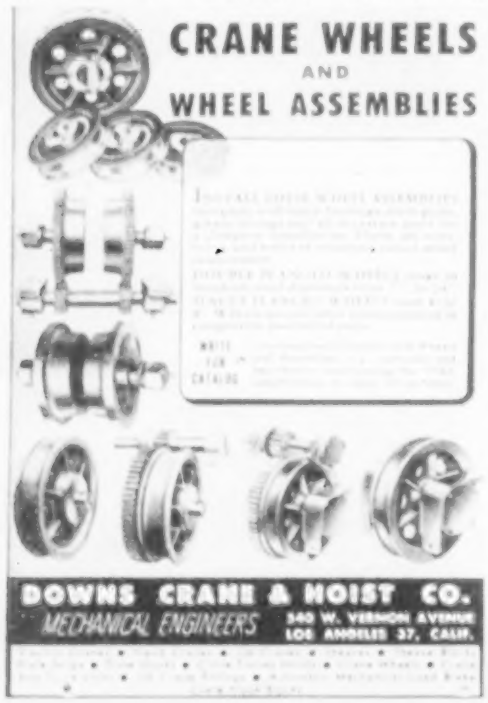
IEN-9304




IEN-9305

IEN-9306




IEN-9307

PRINTING . . Whiteprint machines, table and floor mounting assemblies

Source: PECK & HARVEY
5724-28 N. Western Ave., Chicago 45, Ill.

Spec-Dec and Versa-Lites Model D

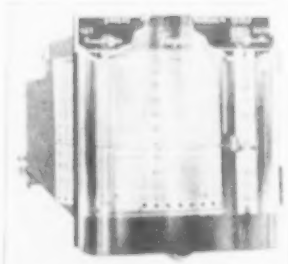
Drawings

The Model D

IEN-9308

RECORDING . . Strip chart instrument for flow, pressure, temperature control

Source: TAYLOR INSTRUMENT COS.
59 Ames St., Rochester 1, N. Y.

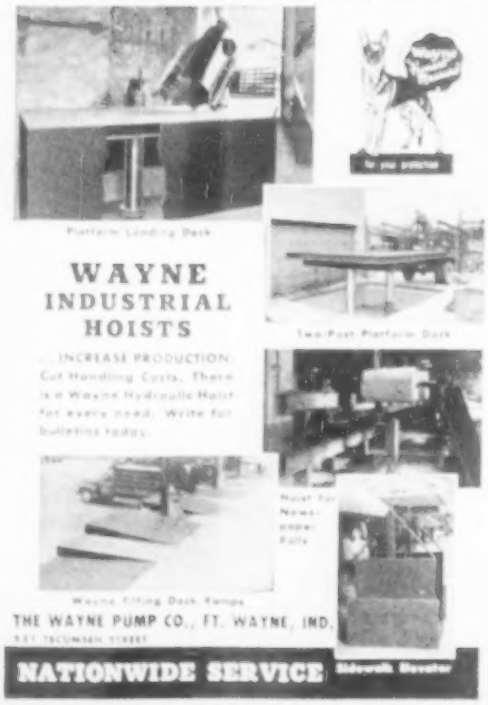


Trimvel Grade

The chart

Bulletin 9007A

IEN-9309




IEN-9310

IEN-9311

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*with* "LINDE" FINE ALUMINA POWDERS

Type A

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COMPANY NAME
BY
STREET ADDRESS
CITY STATE

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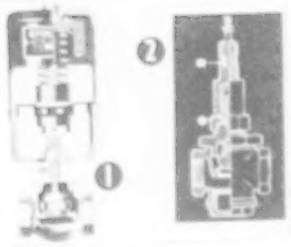
IEN-9316

VALVE . . Bellows operated to control gas, oil, steam, water

Source: POWERS REGULATOR CO.
2737-A Greenview Ave., Chicago 14, Ill.



The valve

IEN-9317

CORROSION PROOFING . . Kraft paper chemically treated for packaging use

Source: CROMWELL PAPER CO.
4801-21 S. Whipple St., Chicago 32, Ill.

Sample sheet carries printed informative data

IEN-9318

HANDLING . . Drum lifting hook, malleable fingers on the steel rods

Source: MORSE MFG. CO.
120-24 Dickerson St., Syracuse 2, N. Y.

All Makes of Tires, and All Other Products, Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

IEN-9319

Aerovent BELTED DUCT FAN
KEEPS MOTOR OUT OF AIR STREAM

Other Models: Power Ventilators, Mine Cooling, Extended Shaft Axial Type, Propeller Drives

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CLEVELAND Worm Gear Speed Reducers

IEN-9321

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IEN-9322

between you and shipping losses

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THIS SEAL MEANS SSC SECURITY IN SHIPPING

IEN-9323

# Pliobond

makes a better clutch disc quicker— at lower cost



Shown here in sketch is the clutch disc assembly used in the Harley Davidson Model 125 lightweight motorcycle. Friction lining is adhered to plate with Pliobond—assembled in sets of 25 under heat and pressure. User reports rapid assembly, permanent bond, high oil resistance, low cost and an improved product.

For full assistance in using Pliobond—Goodyear's tan-colored, rubber like thermoplastic adhesive that "bonds anything to anything," write:

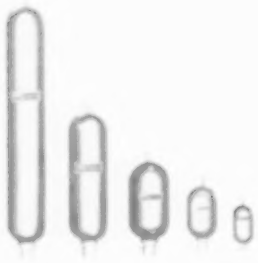
GOODYEAR CHEMICAL DIVISION, AKRON 16, OHIO

GOODYEAR

IEN-9326

## ACCUMULATOR . . Pneumatic hydraulic employs synthetic rubber air bladder

Source: VICKERS INC.
1198 Oakman Blvd., Detroit 32, Mich.



IEN-9329

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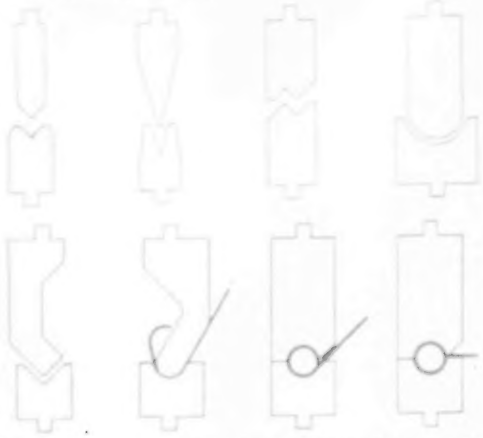
Any Metal—any gage—to fit any make of machine

Made up in few examples



RAFTER MACHINE COMPANY INC.

249 Stephens Street Belleville 9, N. J.

IEN-9324

## STOP YOUR CRANES

the way you stop your car

with Wagner "Full Control" Hydraulic Brakes

Only Wagner Hydraulic Crane Bridge Brakes give you these features:

- Two Times—Time
- Non-Fade Control Blocks
- New Self-Contained Design
- New Control Unit Accessibility
- Only Equipment with Automatic Adjustment

Write for Bulletin No. 80 on Wagner Hydraulic Brakes.

Wagner Electric Corporation

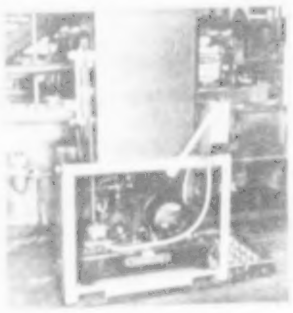
6414 PLYMOUTH AVENUE ST. LOUIS 13, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

IEN-9327

## REFRIGERATING . . Compressor and coil cools oil used to wash bearings

Source: FRIGIDAIRE DIV.
302 Taylor St., Dayton 1, Ohio



Heat

See Page 14

IEN-9330

## For compact, dependable pipe-line expansion control

CMH pressure-tight expansion joints are compact assemblies for absorbing pipe line expansion and contraction and for controlling movements. They require no maintenance and are easy to install. Three types are available for working pressures up to 1000 psi. Suitable for temperatures to 1400° F. Sizes range from ½" to 12". Write for complete information.

CHICAGO METAL HOSE CORPORATION
1101 S. Third Ave. Maywood, Ill.

Representatives Throughout U.S. and Canada

ONE DEPENDABLE SOURCE for every flexible metal hose requirement

IEN-9325

# BIN-LEVEL CONTROLS

2 BIN-DICATORS
Often Replace 1 Man

THE BIN-DICATOR CO., 13946 Kercheval, Detroit 15, Mich.

Please send me 20 page catalog containing complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units.

Name

Address

City Zone State

IEN-9328

It's as easy as this to

# ISOLATE VIBRATION

and

# SAVE MONEY

with ISOMODE* Pads

THE MB MANUFACTURING COMPANY, INC.
1064 State St., New Haven 11, Conn.

IEN-9331

NEW NEW NEW

ADHESIVE BACKED, CHROMATE

# Impregnated Felt

SEALING TAPES & GASKETINGS

A PRODUCT OF PRODUCTS RESEARCH COMPANY

SPRING PACKING CORPORATION
332 SOUTH MICHIGAN AVENUE . . . CHICAGO 4, ILLINOIS

IEN-9332

# PHOSPHOR BRONZE

# HIGH

Tensile strength
Elastic limit
Resistance to fatigue
Resistance to corrosion
Resistance to wear

SHEETS
WIRE
TUBES
RODS

The AMERICAN BRASS COMPANY
Waterbury 20, Conn.

49276

# ANACONDA

IEN-9333

WHEREVER AND WHENEVER *Heat is a problem*
LOOK TO
# CHROMALOX
*Electric* HEAT

WHY CHROMALOX OFFERS YOU THE BEST IN ELECTRIC HEAT!

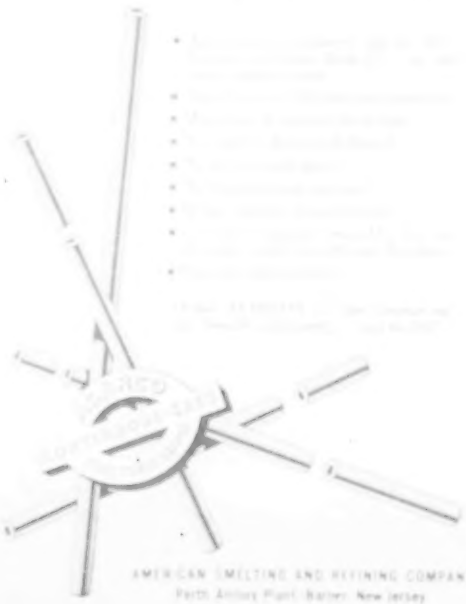
EXPERIENCE — SERVICE — SELECTION — ENGINEERING

WRITE FOR CATALOG 18 WHICH GIVES FULL DETAILS

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

IEN-9334

*Asarcon 773* BEARING BRONZE
IN ANY LENGTH YOU NEED



AMERICAN SMELTING AND REFINING COMPANY
Perth Amboy Plant, Barber, New Jersey

IEN-9335

SAWING . . Circular blade machine for metal rounds or squares to 3 in.

Source: MOTCH & MERRYWEATHER MACHINERY CO.
713-17 Perton Bldg., Cleveland 15, Ohio

IEN-9336

BRAZING . . Alloy rod for aluminum-base metals, 1/16, 1/8 in.

Source: ALADDIN ROD & FLUX MFG. CO.
1302 Burton St., S. E. Grand Rapids 7, Mich.

Melting point
+ 712 deg. F

Applications

IEN-9337

PROTECTING . . Rubber frame goggle combined with respirator in one unit

Source: AMERICAN OPTICAL CO.
17-19 Mechanic St., Southbridge, Mass.

New assembly

Synthetic rubber

See Page 10

IEN-9338

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO M and M RAIL CLAMPS

Write for Bulletin F-1200

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

IEN-9339

# CUT CARTON COSTS
*by making your own!*

— CARTON DIVISION —

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS
DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · MEXICO, D.F.

IEN-9340

# NEW
## Midget Relay

Long life even under vibration

Electrically rugged Midget Relay, Ward Leonard and Wood Ensemble's Reliance 110 Midget Relay includes as:

- Positive contacting, self-cleaning feature and spring-gap
- Inner performance load matched copper, self-actuated, wound coil
- Series 110 edge-lining with contact life [illegible]

Relay comes in single-pole, double-throw. Access to Reliance 110 Ward Leonard Electric Co., 1 Church Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
*Reliable-Engineered Controls*
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

IEN-9341

We carry a complete stock of all component parts for standard radius and degree roller turn assemblies . . . either overhead or floor types.

*Delivery of complete assemblies 2 to 3 weeks.*

WEBB COMPANY
MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS . . .

OFFICES IN PRINCIPAL CITIES
6915 ALPINE AVE.
DETROIT 4, MICH.

FREE!!!—Identify by IEN-9342 if you write the maker

## 2 NEW cost-cutting unishears

STANLEY

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

FREE!!!—Identify by IEN-9343 if you write the maker

## Chicago Rivet

AUTOMATIC SETTING SLASHES UNIT COSTS!

FREE FASTENING CLINIC

Chicago Rivet — CHICAGO RIVET & MACHINE CO.

FREE!!!—Identify by IEN-9344 if you write the maker

## Reduce Machine Noise and Vibration 60%-85%!

ANCHOR MACHINES ON UNISORB®

Yes, and UNISORB machine mounting requires no bolts . . . no lag screws . . . no destructive floor drilling. It's the modern way to anchor machines . . . saves installation costs . . . lasts for years and years with no maintenance . . . easy to replace . . . prevents vibration damage to floors, buildings and machinery.

Today, write for your free copy of "Why It Pays To Anchor Your Machines with UNISORB."

The FELTERS Company
270-1 SOUTH STREET
BOSTON 11, MASS.

FREE!!!—Identify by IEN-9345 if you write the maker

## PRESS TOOLS . . Pneumatic unloader removes completed work from a press

Source: SAHLIN ENGINEERING CO.
265-69 Peradale St., Birmingham, Mich.

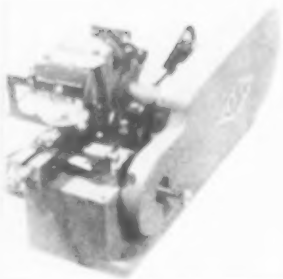
New sizes for common units, on the unit series. Also, Hand power press parts feeding equipment, previously described (IEN-12/52-8). As in the previous design the assembly mounts on the front of a press, and, through use of a gear frame or rack, that saw-like arm the press, grips a designated passed part—like a from the die and moves it out of the press for in-

Operation is by pneumatic cylinder in the frame at the top of the assembly. For varying pressures, horizontal movement and continuous-rated swing, movement of the machine is adjustable. For 12 to 16 in. of movement per stroke, the standard cylinder has a 12 in. stroke and 14 in. bore. Three sizes in addition to standard are offered, and 24 in. bore. Prices are in addition to standard by the gear-rack designed assembly of 24 and 36 in. strokes. A new design of cylinder has been made for operation on the die in press open. This cylinder is [illegible]

FREE!!!—Identify by IEN-9346 if you write the maker

## GRINDING . . Saw sharpening machine for circular blades to 12 in. diameter

Source: HAMBERGER MACHINE CO.
113 Mt. Hope Ave., Rochester 20, N. Y.



Circular blades [illegible]

The motor driven wheel is supported in an a pressure of the [illegible] and a [illegible] guide to operate [illegible] Correction and rock. A [illegible] is supported or [illegible] with [illegible] on the side of the [illegible] Motor bearings are [illegible] Operation [illegible]

List price is $[illegible] for [illegible] [illegible] [illegible]

▼ REQUEST—Identify by IEN-9351 if you write the maker ▼


In
AIR CYLINDERS

It's MUSCLE you need!

AIR CYLINDERS

JAMES L. ENTWISTLE CO.
416 CHURCH STREET — PAWTUCKET, RHODE ISLAND


▼ REQUEST—Identify by IEN-9352 if you write the maker ▼


If you make it with MAGNET WIRE

For any type of magnet wire or problem, consult Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. and 20 N. Worker Drive, Chicago 6, Ill.

the right wire for the job

ANACONDA wire and cable


▼ REQUEST—Identify by IEN-9353 if you write the maker ▼


THE ANSWER TO
COMPACT
DEPENDABLE
PRECISION-BUILT

MOTORIZED SPEED REDUCTION

PHILADELPHIA GearMotoR

CATALOG

PHILADELPHIA GEAR WORKS, Inc.
Industrial Gears and Speed Reducers
Erie Avenue and G Street — Philadelphia 34, Pa.
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON
In Canada: Wilson & Ro Gears Limited, Toronto


▼ REQUEST—Identify by IEN-9354 if you write the maker ▼

## LUBRICATING . . Pneumatic pump and equipment to handle light grease

Source: STEWART-WARNER CORP.
1828 Diversey Parkway, Chicago 14, Ill.

▼ REQUEST—Identify by IEN-9355 if you write the maker ▼

## STRIPPING . . Liquid and absorbent to remove old finish from wood floor

Source: J. I. HOLCOMB MFG. CO.
44th St. & Cold Spring Road, Indianapolis 44, Ind.

Company furnishes directions for use

▼ REQUEST—Identify by IEN-9356 if you write the maker ▼

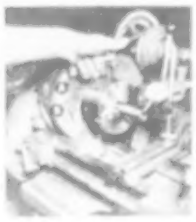
## CONNECTOR . . Plier type tool for use with Hydent electric terminals

Source: BURNDY ENGINEERING CO.
105-9 Bruckner Blvd., New York 54, N. Y.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 66

▼ REQUEST—Identify by IEN-9357 if you write the maker ▼


First Chuck Advance In 50 YEARS!!!



Buck ADVANCE CHUCKS

1
2
3
4

BUCK TOOL CO., 1016 Schippers Lane, Kalamazoo, Mich.


▼ REQUEST—Identify by IEN-9358 if you write the maker ▼

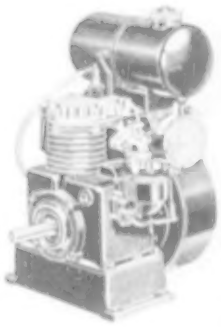
2-speed automatic TRANSMISSION

. . used to supplement constant-speed and multi-speed motors . .

. . with the advantage of providing broader range of speeds, and special ratios not obtainable electrically . . In the five horsepower [illustrated] model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . . WESTERN Two-Speed Automatic Transmission are built to handle 5, 10, 15 20, 25 and up to 50 horsepower motors . . . Send for complete information.

up to 50 h. p. WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. • 1300 DORTON—DETROIT, MICHIGAN


▼ REQUEST—Identify by IEN-9359 if you write the maker ▼

Four-Cycle
Air-Cooled
KOHLER ENGINES
• Compact
• Quick-Starting
• Reliable

KOHLER OF KOHLER
Plumbing Fixtures • Heating Equipment • Electric Plants • Air-cooled Engines


▼ REQUEST—Identify by IEN-9360 if you write the maker ▼


CONVEYORS for OLD and NEW BUILDINGS

Pictures and sectional drawings of over 50 different types and designs of Conveyor systems.

Get your copy of our new book!

ANCHOR STEEL & CONVEYOR CO.
DESIGNERS & MANUFACTURERS
6906 Kingsley Ave., Dearborn, Mich.

IEN-9361

## AIR YOUR TROUBLES!

Tell your cleaning troubles to a CLEMENTS-CADILLAC blower-suction cleaner and the battle against Dirt, Dust and Grit is won. A blast from this powerful weapon routs the enemy from every crack and crevice of machinery and equipment like it for all hard-to-get-at cleaning jobs.

SAVE TIME • MONEY
PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

IEN-9364

## HEATING . . Electric element keeps motor vehicle engine warmed up

Source: GENERAL ELECTRIC CO.
Dept. GE-201, Schenectady 5, N. Y.

The jacket liquid

IEN-9365

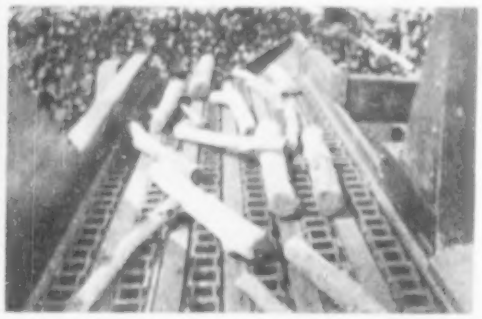
## PRESS TOOLS . . Repair service to correct mistakes in hardened dies

Source: PARSONS TOOL INC.
50 Washington Ave., Berlin, Conn.

Send in your spoiled work for correction

IEN-9368

IEN-9362



## CUT COSTS . . . SPEED HANDLING

Many tough conveying jobs are made easy with Jeffrey chains once our engineers get the right. They can offer complete material handling and transmission service—rugged dependable units engineered to speed production and cut costs through various processes.

Jeffrey equipped means efficient operation. Take advantage of Jeffrey experience and specialized training.

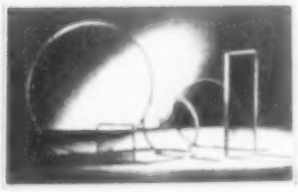
JEFFREY

THE JEFFREY MANUFACTURING CO.
954 Dublin St., Columbus 16, Ohio

IEN-9366

## SIGHT GLASSES . . Pyrex plate units for peep holes and equipment windows

Source: SWIFT LUBRICATOR CO.
24 James Bldg., Elmira, N. Y.



New line

The line includes circular units to fit a [illegible] opening, rectangular, odd shapes, all to order. Glass can be made from a [illegible] by 0000. Stock. Thickness ranges [illegible] to 2 mm. Can be ground where can be supplied in [illegible] to inch. The edges are ground and polished. [illegible]

nitric acid and strong hot caustic solutions.

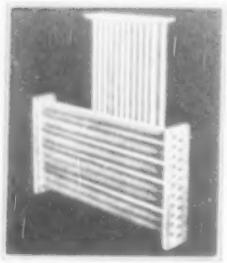
The line includes circular units to fit a [illegible] opening, rectangular, odd shapes, all to order. Glass can be made from a [illegible] by 0000. Stock. Thickness ranges [illegible] to 2 mm. Can be ground where can be supplied in [illegible] to inch. The edges are ground and polished. [illegible]

All Makers of Glass and All Glass Products Are Listed In THOMAS REGISTER — Instrumentation — Ratings — See Page 10

IEN-9369

## ROME HELICAL-FIN TUBING

*Over 90 sizes in Production*



[illegible]

Rome Helical-Fin Tubing is used and specified by leading air cooled Automotive, Diesel, manufacturers for their packaging equipment.

ROME-TURNEY RADIATOR COMPANY

200 EAST FRONT STREET ROME, N. Y.

IEN-9363

*For bronze bearings and bushings . . .*

**THIS BRONZE ALLOY IS JUST WHAT YOU'RE LOOKING FOR!**

**N-B-M "Tiger" Bronze is the ONE bronze alloy with ALL these features:**

Wear-Resistant . [illegible]

Anti-Frictional . [illegible]

Shock Resistant, Embeddable . [illegible]

Easy To Machine . [illegible]

All Popular Sizes . [illegible]

Direct to you shipments cut costs!

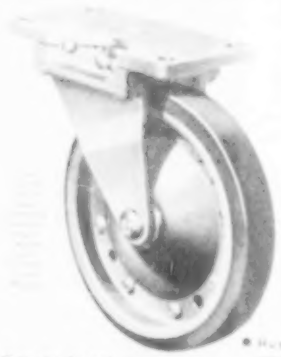
[illegible]

AMERICAN Brake Shoe COMPANY

NATIONAL BEARING DIVISION
4520 Manchester Avenue • St. Louis 10, Mo.

IEN-9367

ENGINEERED
## TRUCK CASTERS
CUT HANDLING COSTS



NEW!
MAN-SAVER AND EXPEDITER for INDUSTRY

[illegible]

• Jumbo Swivel . [illegible]

• Husky Hub . [illegible]

• Oversize King-Pin . [illegible]

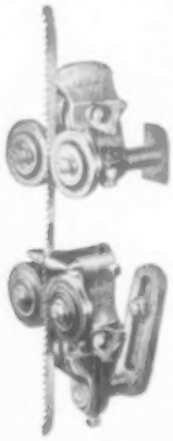
FAULTLESS CASTER CORPORATION
Dept. IE-10, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

IEN-9370

MORE SPEED MORE SUPPORT

## SAVE MONEY

PADDOCK
BALL-BEARING
BAND-SAW GUIDES



Speed Up Production—install on old or new Band Saws. Cut more material—protect workman! Cut down Blade breakage. PADDOCK GUIDES hold working portion of blade as if in a frame! Ball bearing wheels turning with the blade give friction-free support! Write for circulars and prices today.

PADDOCK TOOL CO.
Blade Guides since 1920
1418 Walnut Street, Kansas City 6, Mo.

Paddock
BALL-BEARING
BAND SAW GUIDES

IEN-9371

# PARKER VISES

*Complete Line Including*

HINGED PIPE VISES • WOODWORKERS' VISES

6 EXCLUSIVE FEATURES

*Write for catalog*
*Sold 100% through distributors*

THE CHARLES PARKER CO.
MERIDEN CONNECTICUT

IEN-9372

# There's profitable reading for you in the NEOPRENE NOTEBOOK

✓ New products
✓ New methods of reducing maintenance costs
✓ New solutions of production problems
✓ New improvements on old products

Put your name on our mailing list now for your FREE subscription

NEOPRENE
The rubber made by Du Pont since 1932

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

IEN-9374

## PACKAGING . . Portable electric tool tightens threaded caps on containers

Source: SCIENTIFIC FILTER CO.
57 Rose St., New York 7, N. Y.

IEN-9375

## SAWING . . Carbide tipped blade, 7, 8, 9 in. diameters, for wood

Source: BLACK & DECKER MFG. CO.
715 E. Pennsylvania Ave., Towson 3, Md.

IEN-9376

## FEEDING . . Oscillating belt unit distributes dry materials on wide belt

Source: PROCTOR & SCHWARTZ INC.
726-30 Tabor Road, Philadelphia 20, Pa.

Short belt

*On Models of These And 50 Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50*

IEN-9377

## A Lot More for Your Glove $

in this New Extra-Duty Safety Line of PIONEER STANZOIL RED NEOPRENE

## Coated Canvas Gloves

**Exclusive Pioneer Non-Slip Grip** Holds wet things as if dry

**Curved Fingers** Extra comfort and efficiency

**Preflex-Palm Design** Prevents wear from bunching

**Inverted Thumb Design** No inside seam to wear through quickly

**Heavy Red Neoprene Coating** Liquid-tight, durable

**Entire Glove is full weight 8 oz. canton flannel** Comfort, long wear

Compare these new safety red neoprene coated canvas gloves with any others anywhere and see the extra hard protection, extra wear, extra durability in cuffs and wear, extra work and efficiency only STANZOIL gives you. For lowest cost-per-hour, more work-per-day, write for full information about these Extra Duty STANZOIL neoprene coated canvas gloves, today. *The Pioneer Rubber Company, 618 Tiffin Road, Willard, Ohio.*

OVER 30 Years OF QUALITY GLOVE MAKING

STANZOIL PIONEER

IEN-9378

# NEW TANK FLOAT SWITCH

CLASS 9037 EG

*FOR*

## CONDENSATE PUMPS

*VERTICAL OR HORIZONTAL*

• Designed specially for small condensate pumps. Employs general purpose switch in Industrial Class 9037 EG enclosure. Low cost. Greater sensitivity, positive action. Suitable for floating action, pump, or alarm control. Applicable to electrical actuation of 1 HP motors, 115, 230, 460, 575 Volts, 50, 60 Cycles.

*Write for Bulletin 9037 EG, Square D Company, 4041 North Richardson Street, Milwaukee 12, Wisconsin.*

SQUARE D COMPANY

IEN-9379

# You Can be Sure of Clean Dry Air for your Compressed Air Tools

with ADAMS Aftercooler and Cyclone Separator

• Reducing compressed air moisture results in months, not of the cooling water. Adams Separator conditions and removes 97% of moisture water and oil vapor from hose air lines.

PROVIDES cool, dry, quality air, with 1 HP motor.
PROTECTS air compressor from fouling and needless time changes.
PREVENTS fouling of pipes in mains.
AVOIDS superheated air spoiling of special lubricants.
PREVENTS the rise of rust pipe from air to consumers and tools.

*Write for new Bulletin 1-A*

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

IEN-9380

IT NEVER SEEMS TO HAPPEN ON SUNDAY!

Power cable failure always happens at the very worst time. Cutting a trade union or a central station's power for the load is a must. That's when trouble is really costly.

The Okonite-insulated cable is the source of long life in a continuous operation cable. Inherent Okonite's exclusive processing of the conductor, insulation and lead-cover thermal bonds system every layered condition encountered in an industrial plant or steel, chemical, mining, flame, weather and prolonged water service.

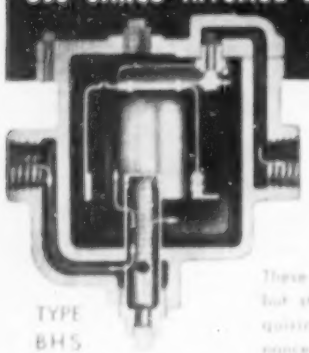
Overload or underload, no matter, closing or opening, in spite of heat, the power and lighting current, double Okonite-Okoprene is the one industrial power cable that stands out above all others for long, trouble-free life. Write for Bulletin IE-2051B—with how to determine 11 causes of cable failure in industrial plants. The Okonite Company, Paterson, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE insulated wires and cables

BRIEFITT—(detail) by IEN - 9381 if you write the maker

## For Hard Service and High Pressure Use SARCO Inverted Bucket Steam Traps



TYPE BHS

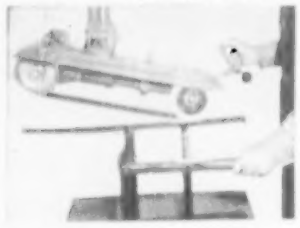
These traps are of simple but sturdy construction requiring minimum maintenance. Straight through connections with inlet and outlet on same level. All mechanism attached to cover. Can be inspected or cleaned without disturbing piping. Since 1926 equipped with integral strainer. No separate strainer necessary. Sizes ½" to 2". Pressures to 900 p.s.i. Catalog No. 350.

**SARCO SAVES STEAM**

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

BRIEFITT—(detail) by IEN - 9382 if you write the maker



## A 100 LB. GIANT. . . . NEW AS NEW CAN BE

Never has there been a machine to equal this Marschke Swing Belt Machine for honest-to-goodness "lightweight" grinding and a lot of polishing jobs. Weighs only 100 pounds . . . yet produces a volume of sparks that proves the work it does. What work? For weld seam, spot weld and burr cutting—it's a honey. For removing runs, dirt particles, air bubbles and other finish blemishes—it's a lulu.

**Well balanced . . . maneuverable . . . handy . . . easily manipulated. You ought to see the pictures showing its versatility . . . get the details on this "little giant". . .**

**VONNEGUT MOULDER CORPORATION**
1827 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

BRIEFITT—(detail) by IEN - 9383 if you write the maker

## Heavy Duty YARD CRANES

by WAYNE CRANE

Pay off fast!

Fast, one-man operation — works easily in tight spots.

Wayne Crane users are our "best salesmen." Sales and service in all industrial cities. Write or write for specifications and prices. You'll like both.

WAYNE CRANE DIVISION, AMERICAN STEEL DREDGE CO. INC.
FORT WAYNE 1, INDIANA
Manufacturers of Material Handling Equipment Since 1925

BRIEFITT—(detail) by IEN - 9384 if you write the maker

## COMMUNICATING . . Master station for two way talk is in unit assembly

Source: EXECUTONE INC.
415 Lexington Ave., Room 1301, New York 17, N. Y.

**Unit design** of this new master station makes it possible to start with an inexpensive two-station initial installation and then expand it later to seven or more stations by replacement of the station selector switch A and the locking grille B. The sender and receiver-station assemblies and the grille are stocked for this purpose by the company, and are available on short notice for shipment.

**Quick maintenance** is assured by the replaceable plug in adaptor C. It can be removed as a unit for servicing and a spare put in its place. Access for use of the Dungan Solenoid removal of the switch locking the assembly carrier to the base D.

BRIEFITT—(detail) by IEN - 9385 if you write the maker

## VALVE . . Globe and angle designs, seat and disc renewable under pressure

Source: METAL SEAL & PRODUCTS INC.
25714-18 Lakeland Ave., Euclid 23, Ohio

Ask for Catalog A for section views and description

The company [illegible] an [illegible] of manufacturing and [illegible] for the Bashlin valve and [illegible] for the faucet in which the design permits screwing of the seat and disc while the flow parts are open and under pressure. The valve is available in globe and angle designs in sizes from ¼ to 2½ in. for working pressures to 200 lb. steam, 300 lb. water and 300 lb. air.

BRIEFITT—(detail) by IEN - 9386 if you write the maker

## PLASTICS . . Molded parts quickly in small lots at low mold cost

Source: DAYTON ROGERS MFG. CO.
2822-26 13th Ave. S., Minneapolis 7, Minn.

The illustration shows the range of shapes that can be produced to specification, at low mold cost and quick delivery by a new mold making process developed by the company. It is prepared to adapt this process to produce molds and to make and deliver from the mold any quantity of finished parts from 100 to 5,000. Parts delivery is in two to three weeks from receipt of order.

**Average cost** for the required molds for parts such as those shown in the illustration ranges from $30 to $150. Production cost of the parts from the molds is $1.50 per cubic inch including the plastic material. Mold life is over 10,000 pieces.

*All Makers of Items And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*

BRIEFITT—(detail) by IEN - 9387 if you write the maker

## TRUSCON SPEED-ERECT

*Ready-Made Steel Buildings*

**for quick occupancy at moderate cost**

**TRUSCON STEEL COMPANY**
YOUNGSTOWN 1, OHIO. Subsidiary of Republic Steel Corporation

BRIEFITT—(detail) by IEN - 9388 if you write the maker

## Nutting FLOOR TRUCKS WHEELS-CASTERS

Here are two veterans of the Nutting line—proven resourceful and tough for factory material handling. These easy rolling, well balanced trucks get the job done right—on time! Your men will like to work with them—and their cost per year is hardly visible.

Fig. 16—No. 24

Fig. 1136
Non-Tilting Bar Handle Truck

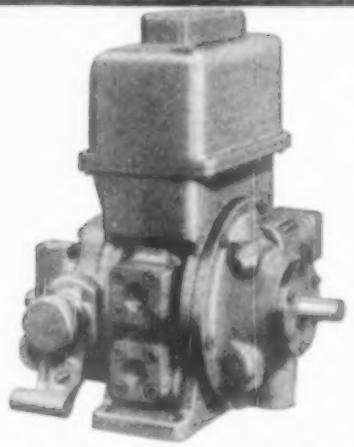
Write for Bulletin 49-G

Our 59th Year

**NUTTING TRUCK AND CASTER COMPANY**
2011 DIVISION STREET, FARIBAULT, MINNESOTA

BRIEFITT—(detail) by IEN - 9389 if you write the maker

## THE NEW OILGEAR "JK" FLUID POWER FEED PUMPS



## ARE SO EASY TO APPLY

### To New or Old Machines

Simply connect a new, small Oilgear "JK" Feed Pump to an Oilgear cylinder and an Oilgear engineered control and you have a complete pushbutton and switch-controlled fluid power system. No hydraulic or electric application engineering is required. Merely follow standard recommendations in mounting units, connect pump to cylinder with two pipes and wire two solenoids on pump to electric controls. Oilgear supplies the feed pump, cylinder, control valve, limit switch panel, control panel and pushbutton station. Oilgear provides patented, tried and proven hydraulic and electric circuits.

You can improve your new and old machines without further investing your engineering department or employing hard to get qualified hydraulic engineers. You cut production and assembly costs because NO mechanical control linkages . . . NO auxiliary valves, pipes or fittings are required. You do not have to use delay disappointment to machine timing. You avoid divided responsibility. You receive the full values inherent only in 100% Oilgear systems.

*No other single change in a machine can contribute as much as simplified design, reduced costs or improved performance as the installation of the "JK" feed system.*

Bulletin 44220 describes the small, compact packaged unit that incorporates feed pump, rapid traverse gear pump, control and relief valves in an Oilgear cylinder, and other features described are wide range of feeds . . . transmitted mechanical pre-set feed rates, ease of servicing without disconnecting pipes or draining oil reservoirs, etc. Send for the bulletin today. THE OILGEAR COMPANY, 1567 W. Pierce Street, Milwaukee 4, Wisconsin.

*Oilgear Fluid Power*

PUMPS, MOTORS, TRANSMISSIONS, CYLINDERS AND VALVES

IEN-9391

# RAMSEY COUPLINGS

An all metal product with flexibility assured through design rather than materials. Simple, sturdy, compact. Easily installed. Eleven sizes available for wide range of loads. Protective aluminum covers. Shipments from stock. Send for literature giving dimensions, capacities, prices, etc.

**RAMSEY CHAIN COMPANY, INC.**
5052 BROADWAY, ALBANY, N. Y.

IEN-9394

## BRUSHING . . Power driven machine roughens laminated sheet for anchoring

Source: OSBORN MFG. CO.
5403 Hamilton Ave., Cleveland 14, Ohio

New application of this Model [illegible] Power Brushing [illegible] is a power-driven machine mounted on a regular [illegible] to rough the face surface of laminated plastic sheets to receive a permanent anchoring cement. The large machine is [illegible] weighs 1[illegible] lb., is mounted on a [illegible] and a [illegible] wire brush. It is mounted at [illegible] to the plastic. Backing of the sheet is [illegible] between the brush and a backing roll. That means [illegible] is constructed of aluminum and stainless machine [illegible] to minimize the contaminant [illegible] on it.

The second brush [illegible] is [illegible] to remove the sheet [illegible] from the roughing operation. The fine rubber pad [illegible] a flooded air [illegible] that [illegible] the sheet surface [illegible]. The complete [illegible] is designed to supply automatically [illegible] in design of the required [illegible] equipment.

IEN-9397

IEN-9392

# Ledeen CYLINDERS IMPROVE THE JOB

## CYLINDER SPEEDS DIE CAST PRODUCTION CYCLE

Faster, more positive injection and improved die castings are gained by replacing a screw-type injector with this 12" diam. x 8" stroke Ledeen cylinder. The cylinder operates from 100 P.S.I. air supply, providing improved injection power.

There are Ledeen medium duty, heavy duty and super duty cylinders for air, oil or water operation ready to help you, wherever you have to . . . push or pull • lift or lower • press or squeeze • tilt or turn • open or close.

Standard Ledeen cylinders and mounting attachments are available from distributors' stock in major cities. Special cylinders on order.

WRITE FOR NEW BULLETIN 300

LEDEEN CYLINDERS ARE GOOD CYLINDERS

**Ledeen MANUFACTURING CO.**
1602 SAN PEDRO STREET • LOS ANGELES 15, CALIF.

IEN-9395

## TACHOMETER . . Electronic instrument counts cycles in 0.6 second interval

Source: POTTER INSTRUMENT CO.
113-17 Cutter Mill Road, Great Neck, N. Y.

Counter: [illegible] unit built in the company's line of electronic [illegible] components. It is used in [illegible] that [illegible] of [illegible] pick up [illegible] or [illegible] a [illegible] interval. The instrument provides its reading on a four-digit counter with [illegible] range for each digit.

The reading remains in view for an adjustable period of 5 to 5 seconds or can be set to hold indefinitely. Following the count interval the instrument resets and recycles. The free-wheel frequency is established by crystal stable circuit of a 1[illegible] crystal oscillator built into the housing.

Applications include speed readings for high-speed turbines, engines, motors. No physical contact is required when the electromagnetic or photoelectric sensors are used for picking. Included in the assembly is a cross-cut marker for use when the frequency display source is being adjusted. Data can be printed on [illegible] paper on a [illegible] beside the meter.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 38*

IEN-9398

## for close check on surface temperatures

**Alnor PYROCON**

Wherever a close and frequent check on low surface temperatures must be maintained on machines and materials, you'll find the handy Portable Pyrocon a valuable instrument. It is unexcelled for fast, accurate temperature readings of any surface, flat or curved, stationary or revolving. It may be used with plastic materials, waxes, rubber, liquids, oil or grease, molten soft metals, etc. The rugged Pyrocon can bring laboratory accuracy to your temperature measurement—at low cost. Write today for details on wide selection of thermocouples and extension arms.

Illinois Testing Laboratories, Inc.,
Room 517, 420 N. LaSalle St., Chicago 10, Ill.

*Alnor* PRECISION INSTRUMENTS FOR EVERY INDUSTRY

IEN-9393

# for POSITIVE, PERMANENT LEAK-PROOF CONNECTIONS *nothing compares with* RECTORSEAL

Insist on a RECTORSEAL thread and gasket sealant for your requirements. It's proved to be easy to apply, economical! It's the answer to trouble free . . . maintenance free, leak proof connections!

**RECTORSEAL NO. 2**
For service in: all petroleum gases and liquids . . . gas distribution systems, gas appliance manufacture, gasoline handling equipment, diesel fuel, and oil burner work, plumbing, heating and air conditioning.

**RECTORSEAL NO. 7**
For service in: High Pressure Steam, Caustic Alkalis, Strong Acids, Alcohol.

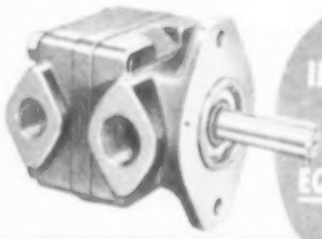
**RECTORSEAL NO. 75**
For service in: Oxygen Lines.

Write Dept. N
RECTORSEAL, 2215 Commerce St.
Houston, Texas

*Write for a free sample. Test it yourself.*

**RECTORSEAL**
Manufactured by RECTOR WELL EQUIPMENT CO., INC.
Fort Worth, Texas

IEN-9396



IDEAL FOR MOBILE EQUIPMENT

# VICKERS SERIES V-200 Balanced Vane Pumps

Expressly designed for rigorous requirements of mobile equipment. Automatic two-way wear compensation maintains correct radial and tube-to-ring clearances at all times. Hydraulic balance minimizes pressure bearing loads. A tough, hard-working, long-life pump. It maintains high efficiency . . . consequently is smaller pump often can be used (saving space and cost). Vane principle provides no-load starting . . . important in cold weather starting.

Write for BULLETIN 49-32

VICKERS Incorporated
Division of The Sperry Corporation
1398 Oakman Blvd. • Detroit 32, Mich.

IEN-9399

# PROTECT Hands, END Fatigue with Schrader *IMPROVED* Press Controls

Why waste energy with hazardous unshielded pressure lines for your presses, brakes and other machines? Why risk accidents? Why worry about the inadvertent actuation of your machines by pinching foot pedals or hand levers?

Install one or several Hand-operated Emergency Valves [illegible] and you'll find they are in all ways superior. Complete line of Schrader Emergency Valves are available and they can be delivered immediately.

Schrader Pneumatic Fittings may also be obtained in complete sets for foot operation or for combined hand and foot operation.

Write for more information and literature about Schrader Press Controls, for information about Kinchart of other Schrader Air Control Products . . . Air Control Sets, Air Cylinders, Valves, etc. Ask for 72 Page Catalog.

**Schrader** PRODUCTS CONTROL THE AIR

Dept. [illegible]
A. SCHRADER'S SON
675 Vanderbilt Ave., Brooklyn 17, N. Y.
Division of Scovill Manufacturing Company, Inc.

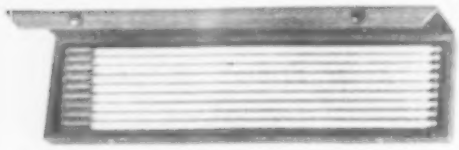
IEN-9400

IEN-9401

IEN-9403

## THERMOMETERS . . Precision matched in set of nine in overlapping ranges

Source: WESTON ELECTRICAL INSTRUMENT CORP.
612-14 Frelinghuysen Ave., Newark 5, N. J.



Inclusive range

IEN-9404

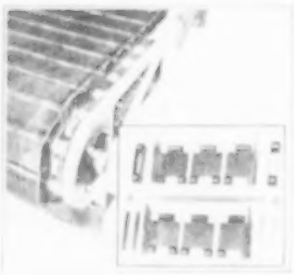
## TRAP . . Inverted bucket design for steam, has built in dirt strainer

Source: ARMSTRONG MACHINE WORKS
888 Maple St., Three Rivers, Mich.

IEN-9405

## CONVEYING . . Hinged steel belt to handle hot or cold metal products

Source: MAY-FRAN ENGINEERING INC.
1694 Clarkstone Road, Cleveland 12, Ohio



Steel links

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER — Distribution — Buying — See Page 10

IEN-9406

IEN-9407

IEN-9408

FREE!!!—Quote IEN-9410 if you write the maker

# Buried Treasure

in Your Product?

*More than likely... if you can dig up New Ways to make it do more for your customers ... by COUNTING*

Dig deeply into this million dollar question: "How could we product increase its usefulness and sales ... by counting?" And you may well uncover a new and distinctive merchandising appeal that will set your product apart from competition as so many manufacturers have done.

It's as simple as this: If your product is mechanically or electrically operated, then it's definitely worth a search to see if there's hidden sales treasure buried there. This can be quickly determined by some fast spade-work done by a Veeder-Root engineer, paired off with your design engineer. And the digging can get under way ... any time you say.

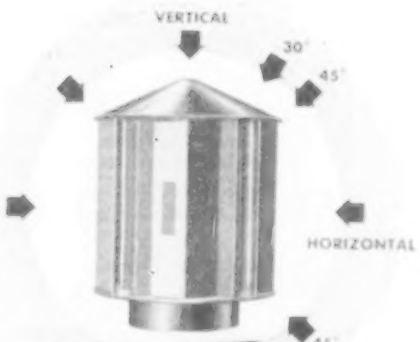
**VEEDER-ROOT INC., Hartford, Conn.**

FREE!!!—Quote IEN-9411 if you write the maker

# CAUTION

## To Ventilator Buyers

If you want to be sure of what you're getting when you buy ventilators, insist on certified capacity ratings based on tests made with wind blowing in *all* directions, as indicated below.




**The First Scientific Improvement in Ventilators in over 50 Years!**

Breidert Air-X-Hauster Type B

*Only such tests can guarantee the capacities a ventilator will deliver under actual operating conditions!* Don't be misled into buying on size alone. Insist on the correct size for the capacity required.

The Breidert Air-X-Hauster has been tested by Smith, Emery & Co. of San Francisco, Pacific Coast branch of the Pittsburgh Testing Laboratory, with wind directed at *all* angles shown above. It is the only ventilator on the market with published certified ratings based on such tests. Breiderts are extensively used on industrial, commercial and residential buildings all over the country, and on most types of pleasure craft and ships.

For detailed information and free Engineering Data Book on the Breidert, send the coupon.

**G. C. BREIDERT CO.**

3129 San Fernando Rd., Los Angeles 65, Calif.

Representative in Foreign Lines of the United States

G. C. BREIDERT CO., Dept. E
3129 San Fernando Road, Los Angeles 65, Calif.

☐ Send name of nearest Breidert representative.
☐ Send Free Engineering Data Book and other literature.

Name
Company
Street
City Zone State

FREE!!!—Quote IEN-9413 if you write the maker

## VALVE . . Tapered plug design, to 5,000 lb., works without lubrication

Source: CAMERON IRON WORKS INC.
P. O. Box 1212-A, Houston 1, Texas

Production is [illegible] with the original [illegible] Model 30 [illegible] Model 31 [illegible] 5,000 psi [illegible] 1,000 psi [illegible] 1,000 psi [illegible] 5,000 psi [illegible] 1,000 psi [illegible] 5,000 psi [illegible] 1,000 psi [illegible] 5

IEN-9419

Cambridge Surface Pyrometers are light weight, portable instruments or accurate, fast logging — for measuring temperature of mold cavities and flat surfaces, still or moving belts, and within the mass temperature of materials in a plastic or semi-plastic state. Write for Bulletin 194-SA. 13 illustrations, many applications.

**CAMBRIDGE INSTRUMENT CO., INC.**
3710 Grand Central Terminal, New York 17

*PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS*

IEN-9420

## SECTIONAL LADDER SCAFFOLDS CUT COSTS THREE WAYS...

Light Aluminum Ladder Scaffolds can be assembled and taken down faster.

Proper bracing and safety features assure a strong, rigid scaffold.

Ladder scaffolds are easily moved through crowded aisles and 30" doorways.

Sectional Aluminum Scaffolds are easily assembled in any size height using ladder sections 6', 3', 1', 4' high (standard 6', 4' and 3') and available. Diagonal braces are easily adjusted to meet all conditions. Non-Mars aluminum tubes in "deep grooved" tubes are of quality alloy. Inclusive Aluminum Rolling Scaffolds with steel dimensions of 4'6" x 6' also are also available. Approved by Underwriters Laboratories, Inc.

Write For Free Bulletins PSS-22 and PSS-23

**A Complete Nationwide Scaffolding Service** based on nearly years experience in designing, making and marketing all types of all the ground safety equipment, devices and

Look Mark Ladders Scaffolds

*for Greater Safety...Efficiency...Economy*

**THE PATENT SCAFFOLDING CO., Inc.**

38-21 12th Street, Dept. IE, Long Island City 1, N. Y.
See your Classified Telephone Directory for nearest office

IEN-9422

## DEMAGNETIZING . . Coil unit, ac., neutralizes magnetism in work pieces

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Rectangular

Application

IEN-9423

## CLEANING . . Liquid hand soap contains antiseptic, for food handlers

Source: WEST DISINFECTING CO.
42-18 West St., Long Island City 1, N. Y.

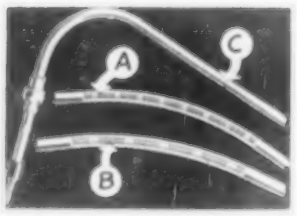
New soap

Eight page booklet "Antiseptic Soaps" presents details

IEN-9424

## CONTROL . . Push-pull assemblies and associated fittings as specified

Source: SIMMONDS AEROCESSORIES INC.
50 White Plains Road, Tarrytown, N. Y.



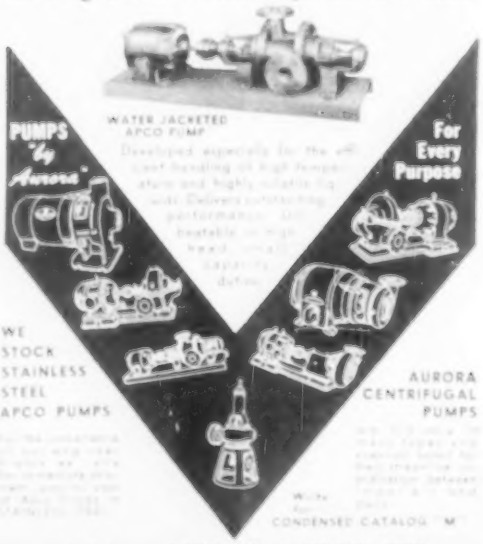

Improved design

The tubing

All Makes of Units And All Other Products We Listed In THOMAS REGISTER — Industrial Buying — See Page 10

IEN-9425

## Making Warm Friendships on Hot Jobs




Write for CONDENSED CATALOG "M"

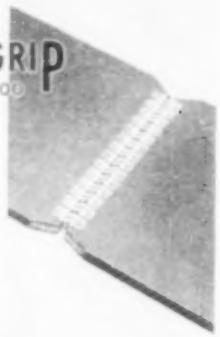
DISTRIBUTORS IN PRINCIPAL CITIES

AURORA always PUMPS — **AURORA PUMP COMPANY**
52 LOUCKS STREET • AURORA, ILLINOIS

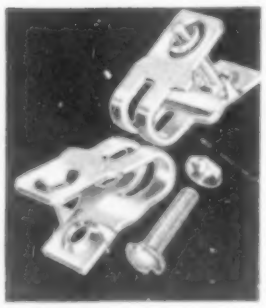
IEN-9426

*for Conveyor Belts*

## HINGED PLATEGRIP
BELT FASTENER No. 500



Specially designed to permit quick and easy method of adding to, or reducing length of belt. Just pull the hinge pin to open joint.



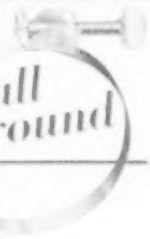
Write for Catalog Sheets PLATEGRIP for hot type permanent joints, HINGED PLATEGRIP for cold-type quick REPAIR PLATES for patching worn or damaged belt parts.

ARMSTRONG-BRAY & COMPANY
5328 Northwest Highway
Chicago 30, Illinois

IEN-9427

## MARMAN UNIVERSAL

*a better clamp ...all around*



*easy:* Easy to adjust or remove without tools—just by stack some any size is usable down to a minimum diameter of 11/16". Easy to fit, conforms to all shapes.

*vibration proof:* Self locking screw prevents loosening of clamps and slipping under all conditions.

*corrosion resistant:* Stainless steel band and saddle meets U. S. Navy requirements for corrosion resistance.

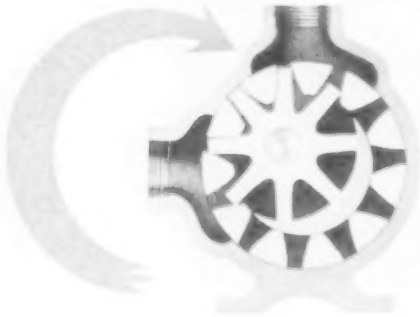
*strong and dependable:* Heat treated steel alloy screw — wide band — stainless steel band clamp can be used over and over.

*A better all around clamp*

FOR INFORMATION WRITE DEPT. 1-12

**MARMAN PRODUCTS CO. INC.**
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

IEN-9428



The genuine Viking is the original "gear within a gear" pump — most copied of all rotary designs. Be sure — insist on the original and genuine Viking. For details, and for free bulletin 505F today.

VIKING "AN HONEST NAME IN PUMPS"

**Viking PUMP COMPANY**
Cedar Falls, Iowa

IEN-9429

MULTICLONE Collectors offer unusual advantages in compactness and adaptability to the space limitations of industrial plants. They save space four ways:

1. Greater Compactness
2. Simple Duct Requirements
3. Maximum Flexibility
4. Fit Cramped Spaces

WESTERN Precipitation CORPORATION

IEN-9430

Now! A CHECK VALVE that will not leak

CIRCLE SEAL check valves guarantee you

absolute sealing
minimum resistance to flow
maintenance-free dependability
quiet, chatter-free operation

CIRCLE SEAL Check Valves are designed for medium and very low pressure service. . . for all types of hydraulic and pneumatic systems.

If you think a Check Valve is needed, CIRCLE SEAL can solve it. Ask for complete information . . . write today.

CIRCLE SEAL DATA

WORKING PRESSURES

FLUIDS

TEMPERATURES

CIRCLE SEAL Check Valves

JAMES POND CLARK
1247 EAST GREEN ST., PASADENA 1, CAL.

IEN-9431

When your concrete floors develop cracks, holes, shallow holes or rough spots, repair them with Smooth-On No. "B" Quick Floor Patch Cement. It comes in powder form, ready to mix with water. Simply apply Smooth-On No. "B" as you would plaster. Smooth-On No. "B" expands slightly as it hardens, ensuring a secure, tight fit. You get an unchipped surface that can take the punishment of heavy traffic. Order Smooth-On No. "B" Quick Floor Patch Cement in 1, 5, 25, or 100 lb. size.

**FREE** *Folder and Repair Handbook*

Write for your copy of the illustrated Smooth-On Quick Patch Folder and the Smooth-On Repair Handbook. Pocket size, 40 pages, 170 simple illustrations. Shows how to make many time-saving, money-saving repairs.

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
QUICK FLOOR PATCH CEMENT

IEN-9432

VALVE . . Reseating relief design to protect hot water storage tanks

Source: A. W. CASH VALVE MFG. CORP.
660-12 E. Wabash Ave., Decatur, Ill.

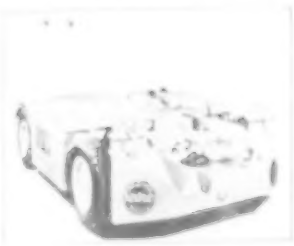
Both pressure

Type TD Temps

IEN-9433

TRUCK . . Trolley-battery tractor for main line haulage in a mine

Source: BAKER RAULANG CO.
1248-52 W. 80th St., Cleveland 2, Ohio



Drawbar pull

Operating speed

IEN-9434

PAGE FENCE Since 1883

• AMERICA'S FIRST WIRE FENCE •

There's one "Best" for You

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

IEN-9435

REDUCE HANDLING of Tools, Parts and Materials

Because Stackbins are portable containers — not fixtures — bulky parts and materials can be moved to the production, from machine to machine, or held at quick access without being transferred. Bins can continue to another shop or department with Stackbins. It is actually necessary only when the contents are needed — without the turning into other hoisting equipment. Stackbins support unused stock in tiers — 1 to 4 high — measure to stack-to-ceiling capacity — and are adjustable together to convenient aisle widths (optional equipment).

STACKBINS IN STACKRACKS

Manufactured and sold in Canada exclusively by Wallwork Stackbin Ltd., Ottawa

Write Stackbin Corp. 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM "Stocked and Still Accessible"

IEN-9436

Increase Arc-Time . . . Welding Output 50% with Worthington-Ransome Turning Rolls

Eliminate waste welding time. Turn cylindrical pieces automatically continuously at any desired speed.

And get better welds because all welding is done in downhand position with heavier electrodes.

Capacities 1 to 150 tons.

*Important Features*

- Anti-friction bearings.
- Steplessly-adjustable variable speed drive.
- Faster load handling — due to drive being lower than rollers.
- Easy maintenance — complete drive quickly removable.

Write for Bulletin 138, Worthington Pump & Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, N. J.

WORTHINGTON

WORTHINGTON-RANSOME TURNING ROLLS

50%

IEN-9437

NOW! Hydraulic TUBING Immediately AVAILABLE FROM FRASSE WAREHOUSE STOCK!

FRASSE for Steel Tubing

Carbon Mechanical Tubing · Aircraft, Condenser and Pressure Tubes · Hydraulic Tubing Stainless Tubing and Pipe, Valves and Fittings

▼ BREVITY—Identify by IEN-9438 if you write the maker ▼

## JOHNSON BRONZE BEARING *Catalog* FOR YOU

THIS LATEST [illegible] Bearings and [illegible] of motors for which they are [illegible]. Complete information on [illegible] Bearings and Bearing Metal. [illegible] bearing data. All items are available from distributors and warehouse stocks. Write today for your copy of the Johnson Bronze Bearing Catalog.

*Johnson Bronze*
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

▼ BREVITY—Identify by IEN-9439 if you write the maker ▼

## SOLVES PROBLEM with oil-free air from GAST compressor

REQUEST YOUR COPY OF "APPLICATION IDEAS" BOOKLET—ALSO GAST CATALOG

NEW 1951 CATALOG IN SWEET'S FILE

"AIR MAY BE YOUR ANSWER!"

PROBLEM: [illegible]

SOLUTION: A model [illegible] GAST Rotary Vane Motor-Compressor. Equipped with [illegible] This compressor operates left or [illegible] Motor Lamp, and measures only [illegible] (Delivers about 70 p.s.i.)

RESULT: A light, compact unit that complied to specifications with trouble free characteristics.

Design engineers have solved scores of industrial and automotive problems by putting air to work. You, too, may find that GAST Rotary Vane units can add extra advantages to a product you're designing. Let us know your problem. Why not write GAST, giving a brief description of your application?

GAST *rotary* AIR MOTORS · COMPRESSORS · VACUUM PUMPS

▼ BREVITY—Identify by IEN-9440 if you write the maker ▼

## It pays to call your shots when selecting Unit Heaters

AIM FOR CONSTRUCTION, PERFORMANCE, DESIGN

[illegible] Modine Unit Heaters [illegible] Modine Engineering [illegible] Modine [illegible] Among [illegible] Modine [illegible] Engineering [illegible]

GET ALL THE FACTS [illegible]

*Modine* UNIT HEATERS

▼ BREVITY—Identify by IEN-9441 if you write the maker ▼

## PRESS . . Motor driven machine rates 10 gage steel to 4 ft. in length

Source: AIRTHERM MFG. CO.
752 S. Spring Ave., St. Louis 10, Mo.

**Bar length** is 48 to 96 in. [illegible] Throat at 8 in. and [illegible] increase bearings at 28 and 42 in. is four available sizes. [illegible] are [illegible] heavy-duty, green frame. The largest machine will bend 96 in. of 10 gage mild steel to 90 deg. [illegible] in. Die Stroke measures [illegible] with ram adjustment at [illegible] in. and maximum die space [illegible] the bolster at 8 inches. Flat Extends [illegible] to 7½ in. with the bolster removed. Operation is at 15 to 40 strokes per min. through the variable-speed control.

▼ BREVITY—Identify by IEN-9442 if you write the maker ▼

## PAINTING . . Hand made brushes mount leather bound hog bristles

Source: CONDON BROS. BRUSH CO.
1018-22 Reedsdale St., Pittsburgh 12, Pa.

**The company** announces general availability for its line of paint brushes that have been manufactured for paint contractors and outdoor advertising companies for a number of years. Each brush is [illegible] made to include Chinese hog bristles mount in leather on a wood handle. The bristle assembly provides a counter construction for paint. Types, sizes, list prices are contained with illustrations in 32-page pocket catalog, "Hand Made Brushes for Master Painters."

▼ BREVITY—Identify by IEN-9443 if you write the maker ▼

## COMMUNICATING . . Master station and remote units compensate for noise

Source: TALK-A-PHONE CO.
1510-14 S. Pulaski Road, Chicago 23, Ill.

**New design** in the company's line of communicating equipment for two-way conversation between various points in a plant and a master station includes a built in power control unit in the master. This unit is operated by depressing a push button to build up additional power to overcome external noises at the remote stations so a conversation can be carried on without difficulty.

**It presents** no noise problems when vertical paging horns are used at the same time. It amplifies better so a user can make his voice heard at a distance from a paging horn.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER · Descriptions · Ratings · See Page 58

▼ BREVITY—Identify by IEN-9444 if you write the maker ▼

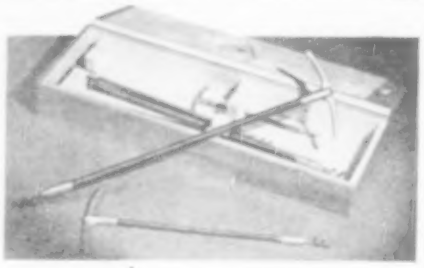
## *Feedmaster* Automatic Air Feed FEEDS THEM ALL and switches jobs in minutes alone!

1) Feeds 12 sheets of cardboard per stroke
2) Feeds [illegible] plated wire caps for making [illegible] facts
3) Feeds copper [illegible] wire [illegible] to 1/32" without jamming
4) Feeds [illegible] 4 rings on a wire jewelry
5) Feeds and [illegible] rings without jamming

NO MORE FEED LOSS SET UP [illegible] Feedmaster [illegible] Feedmaster [illegible] Feedmaster [illegible] Write for [illegible]

GREAT WESTERN TOOLS, INC., 3817 Riverside Dr., Burbank, Calif.

▼ BREVITY—Identify by IEN-9445 if you write the maker ▼



## *Garlock* FLEXIBLE PACKING HOOKS

For removing old packing from stuffing boxes—quickly and easily. The flexible shaft permits usage of the hooks in cramped quarters. These sturdy, high grade tools are put up in sets and packaged in wooden cases. Set "A" contains 1 flexible hook 63½" long, 2 flexible hooks 10½" long, 2 flexible hooks 15" long and 1 double-end packing tool 12" long. Set "B" is the same as Set "A" except that a solid hook 8" long is included in place of the 63½" flexible hook. *Write for folder.*

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK

In Canada: The Garlock Packing Company of Canada Ltd., Montreal, Que.

GARLOCK

▼ BREVITY—Identify by IEN-9446 if you write the maker ▼

## *Machine de-burring with* NOBUR *pays BIG production dividends!*

**NOBUR Tools** [illegible] operation [illegible] fast and efficient machine [illegible] Remove burrs on well-worked parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

**Nobur Tools** are used in any metal, [illegible] particles, [illegible] or Teflon resin. Operated at the [illegible] cutting blade is easy and safe [illegible] skilled help is required, and the operator never needs to be stopped for either de-burring or cleaning.

**Nobur Tools** cut freely on softer stock as well as hard metals, are simple in construction and are made in [illegible] to cover a full range of hole diameters. *NEW DS SERIES extends range of NOBUR applications to holes as small as ⅛" diameter. WRITE FOR FULL DETAILS TODAY!

NOBUR MANUFACTURING COMPANY
717 N. VICTORY BLVD., BURBANK, CALIF.

▼ BREVITY—Identify by IEN-9447 if you write the maker ▼

## *Check!* the effects of TEMPERATURE and RELATIVE HUMIDITY

✔ *on workers*
✔ *machine output*
✔ *assembly parts*

with the *BENDIX FRIEZ* Model 160

Bendix Humidity and Temperature Recorder

Relative Humidity and Temperature play what roles in your plant's productive capacity? A check of your plant's output against a record of these two factors will demonstrate this beyond question. With the Bendix Friez portable humidity and temperature recorder, [illegible] records may be kept on 3" x 5" charts. Modern in design, handy for small space, this instrument is ideal for making on-the-spot recordings.

Watch for two new Bendix Friez humidity control units which soon will be available.

WRITE

FRIEZ INSTRUMENT DIVISION of BENDIX AVIATION CORPORATION
1338 Taylor Avenue
Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N.Y.

IEN-9448

# NOW! FLYING SAUCERS

CUT MATERIALS-HANDLING'S "REDUCIBLE 30%"!

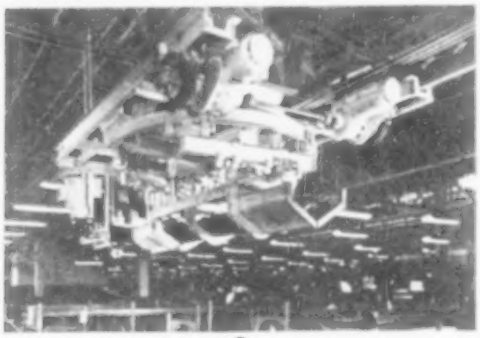
If you want a low-cost way to quickly move light, low equipment (shoe racks, garage equipment, dollies, etc.), see Bassick's amazing new center, the "Flying Saucer."

It cuts materials-handling costs (30%) of total cost) by rolling on a unique 3 in. diameter saucer at an angle, instead of a conventional wheel. This exclusive feature gives the 3½ in. high "Flying Saucer" greater mobility over obstacles and rough, littered floors. Write for free literature. THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

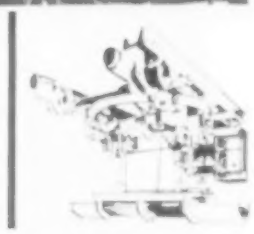
**Bassick** MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

IEN-9449

# INCREASES FLOOR CAPACITY 50%



OVERHEAD MONORAIL SYSTEM PERMITS INSTALLATION OF 50% MORE SCREW MACHINES —WITHOUT EXTRA BUILDING



A large manufacturer of farm implements solved "expansion pains" in the automatic machine department by installing a Louden Material System to handle bar stock.

In addition to increasing by 50% the number of machines in the same floor area, the labor force in this department was cut from 9 men to three men.

"Down time" from shortage of raw stock has been virtually eliminated, since the carrier aids it in continuous telephone contact with a dispatcher, who directs the supply of bars to machines.

All functions are motor driven and controlled from the cab. The boat can be rotated 90° to permit accurate positioning of the stock in the machine racks.

FREE ILLUSTRATED BOOK

Louden describes this Louden Material System, shows how it works, how it helps, for which industrial uses it is adaptable, and provides a new time saving, "Engineering Planning Guide." Information obtained therein . . . on request.

THE LOUDEN MACHINERY COMPANY
204 S. Superior Ave., Fairfield, Iowa

**Louden**

OVERHEAD MATERIAL HANDLING

IEN-9451

## HUMIDIFYING . . Atomizing valves and equipment available on lease basis

Source: HOPPE ENGINEERING CO.
49 Hoppe St., Greensboro, Ind.

One part steam [illegible] of water [illegible] at equal pressure [illegible] through orifices. Advantage is this new production [illegible]. The water and steam [illegible] in [illegible] the [illegible] nozzle. Each nozzle [illegible] 3/4 in. [illegible] of water [illegible] to more accurately fit [illegible] of humidifying space.

The company is prepared to furnish the nozzle [illegible] equipment [illegible] the discovery of the steam and water [illegible] Each nozzle costs [illegible] in lease basis. Each of the valves are guaranteed [illegible] for [illegible] year. If [illegible] to [illegible] Everett [illegible] the [illegible] of the valves [illegible] the [illegible] are [illegible].

Water and steam [illegible] [illegible] is a [illegible] operating [illegible]. A part of the [illegible] supply [illegible] the [illegible]. Through a [illegible] valve [illegible] pressure is regulated [illegible] and [illegible] are [illegible] the valve [illegible] Water [illegible] the [illegible] valve [illegible] the [illegible] valve [illegible] the [illegible] valve

IEN-9457

## LANSING SPARTAN TRUCK

Decades years of experience have gone into the Lansing Spartan Truck, eliminating complaints, or adapting to a wide-work specifications features of wood other frames.

Lansing Spartan Trucks are built to carry heavy loads with full safety in any direction. Designed for extra long service under factory and warehouse conditions, the Lansing Spartan gives true "double life service."

The Lansing Spartan can be equipped with racks, boxes or other types of superstructures engineered to fit the specific loads and make an ideal truck for use with warehouse trolley or cable car conveyor systems.

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS

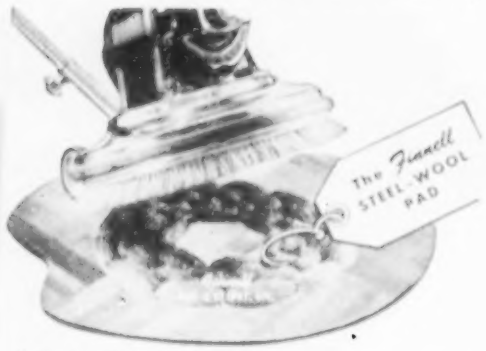
*"Keep Your Products on Wheels"*

MAIN OFFICE AND FACTORY

LANSING, MICHIGAN

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

IEN-9458




## *It's Welded* FOR LONGER WEAR

*and for finer care of waxed floors.* This improved type of construction triples the life of the pad by allowing it to wear evenly and by preventing shredding and bunching. *Welded* pads run gets all the wear out of all the material! And with uniform contact assured, the *Welded Pad* wears and does the a finer job faster! Thus the *Finnell Welded Pad* furthers the economy of steel-wooling—the simplest way to care for waxed floors in between periodic refinishings. In a single operation, steel-wooling dry cleans and polishes. *Finnell Pads* come in 7 sizes, 4 grades. For consultation or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., [illegible] East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
*Pioneers and Specialists in*
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

IEN-9459

FAIRFIELD *for* FINE GEARS

. . . to meet your most exacting specifications

FAIRFIELD MANUFACTURING COMPANY
[illegible] 1st. East Avenue Lafayette, Indiana

*Ask for this* BULLETIN

Send for copies of this interesting, illustrated brochure "How Fairfield Makes Gears."

IEN-9460

## ELEVATOR . . Portable hand operated. 1/4, 1/2 and 1 ton ratings on platform

Source: BARRETT-CRAVENS CO.
4609 S. Western Blvd., Chicago 9, Ill.

Safety device has been added [illegible] Hydraulic Line [illegible] portable [illegible] consisting of a [illegible] the supporting [illegible] an engaging pawl [illegible] platform. The pawl [illegible] the [illegible] safety device to prevent pawl [illegible] and load from falling.

The sizes in the line range [illegible] 1 to 1½ tons. Overall height [illegible] 6 and 8 feet. Lift [illegible] 30, 50 and 68 inches. Platform dimensions are 24 by [illegible] inches. Write for [illegible] equipment.

IEN-9461

## PIPE . . Polythene plastic for acids, fumes, corrosive liquids

Source: AMERICAN AGILE CORP.
5804-8 Hough Ave., Cleveland 3, Ohio

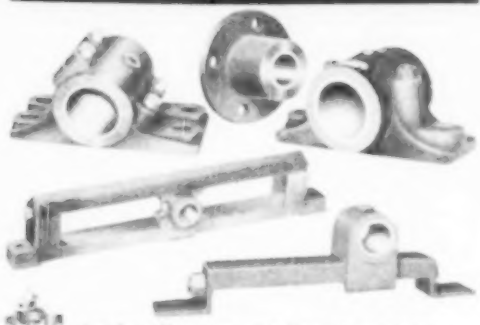
below 150 deg. F.

For temperatures

Agilite [illegible] Polyethylene that is [illegible] temperatures and at [illegible] The pipe is [illegible] [illegible] temperatures as [illegible] to 190 deg. F. [illegible] and [illegible] [illegible] The pipe shows no [illegible] [illegible] Machine [illegible] [illegible] [illegible]

IEN-9467

**for Wheels of Industry—**
**LINK-BELT**
**BABBITTED BEARING BLOCKS**



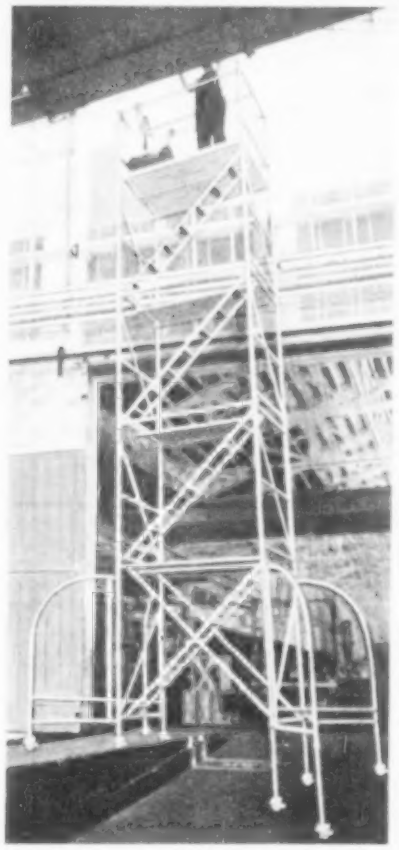
Link-Belt offers a complete line with a wide selection of all types of solid and split babbitted swiveling blocks, grease lubricated and ring-oiling, for light or heavy operation.

The economy, simplicity and dependability of babbitted bearings for many industrial applications have been firmly established through many years of service. Send for Catalogs.

LINK-BELT COMPANY

IEN-9468

**Speed up overhead maintenance with**
**Aluminum Alloy**
**"UP-RIGHT" SCAFFOLDS**
**This mobile 30' unit was set up by 2 men in only 10 minutes**



New labor-saving, cost-cutting advancement for work on walls, ceilings, cranes, overhead machinery, sprinkler systems, ventilating and heating installations. Bridges obstacles with ease. Available in desired number of 5 foot section units. Instantly adjustable legs. Stronger than structural steel yet one-third the weight. Safety tread stairway completely within the structure. No wrenches, wing nuts, bolts, loose parts. Each section folds flat.

• WRITE FOR •
DESCRIPTIVE CIRCULAR
"UP-RIGHT" SCAFFOLDS
Dept. 142 • 1013 PARDEE STREET
BERKELEY, CALIFORNIA

FACTORIES: Berkeley, Calif., and Tuckahoe, N. J.

IEN-9470

**WELDING . . Arc welding head feeds wire electrode and granular flux**

Source: LINCOLN ELECTRIC CO.
13020 Coit Road, Cleveland 8, Ohio

Hideosity

The wire electrode

IEN-9471

**TRAP . . Tilting design to return hot condensate to a boiler**

Source: MOREHEAD MFG. CO.
2453-57 W. Warren Ave., Detroit 8, Mich.

Reinforced Iron

Six sizes

Condensate

*All Makers of Items And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 30*

IEN-9472

**ELECTRICALLY-OPERATED**
**AIR CYLINDER**

*FOR MORE EFFICIENT AIR OPERATION*

*WITH BUILT-IN SPEED CONTROLS*

The Bellows BSM Model Air Motor (the air cylinder with built-in valve and speed controls) is a complete *electrically-operated* "packaged" power unit.

The electrically operated valve is positive, fast, safe. Will operate over 2200 times per minute without hum, pounding, or overheating. Built-in speed controls permit infinite variation of piston rod speed in either or both directions.

Four bore sizes 1¼" to 4½". Stroke lengths up to 60".

Address Dept. IEN-9472

*Use* **Bellows** "CONTROLLED-AIR-POWER" for
- FEEDING WORK OR TOOLS
- OPENING AND CLOSING FIXTURES
- OPERATING CUT-OFF SAWS
- LIGHT RIVETING OR PRESSING
- OPERATING WELDERS
- LIGHT STAMPING
- OPENING AND CLOSING MOLDS

*wherever you have a repetitive push, pull or lift*

**The Bellows Co.**
**AKRON, OHIO**

IEN-9473

IEN-9474

IEN-9475

**This WISCONSIN-POWERED**
***Mobile Compressor***
**GOES TO THE JOB**

This Wisconsin-powered Ingersoll-Rand Model 2-10 and Pel-Air unit is demonstrating its versatility in connection with the installation of machinery at a large growing plant. It GOES directly to the job, inside or outside, and stays with the job until it's finished.

Whether your need is for thoroughly dependable engine power components or original equipment of your own manufacture, or for effective utilization of such power on a direct service basis, there are many good reasons why Wisconsin Engines rate your preference. Heavy-duty construction features, plus highly efficient air-cooling, compactness, light weight and easy starting in any weather are points worth weighing and acting upon.

The Wisconsin line includes 8-cycle single cylinder, 2-cylinder and V-type 4-cylinder models in a complete power range from 2 to 30 hp. Detailed data on request.

**WISCONSIN MOTOR CORPORATION**
*World's Largest Builder of Heavy-Duty Air-Cooled Engines*
MILWAUKEE 46, WISCONSIN

▼ BREEFIT—directly to IEN-9476 if you write the maker ▼

# HERE IT IS!

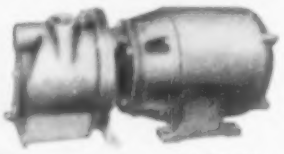


Fig. 300-HX
Self-Priming Centrifugal
Patents pending

**Goulds NEW Self-Priming Pump**

Only GOULDS gives you
all five of these outstanding advantages

1. Absolute prevention of any kind of pump injury or any needed in installation.
2. No restriction of liquid after completion of priming action.
3. Efficiencies comparable to quality straight centrifugal pumps are that obtained.
4. Positive fast acting self priming equal to priming ability of positive displacement pumps.
5. No large or bulky priming chambers or reservoirs, providing a compact unit at low cost.

APPLICATIONS: Any service where suction lifts are encountered.
SIZES—CAPACITIES AND OTHER FEATURES
10 Models and Sizes
½ to 5 H.P. ratings
Open and enclosed impellers
Capacities to 130 G.P.M.
Heads to 135 ft. depending on capacities
Suction lifts to 25 ft.

For full details write for Bulletin 430.

**Goulds PUMPS INC.**
Seneca Falls
New York

▼ BREEFIT—directly to IEN-9477 if you write the maker ▼

## *Standard* SPIRAL CHUTES

...MOVE MERCHANDISE FROM UPPER TO LOWER FLOORS — *FAST* — *AT LOW COST*

Scientifically designed, properly pitched Standard Spiral Chutes are effective time, work and money savers. Engineered in a wide range of types and sizes. Cost nothing to operate. Get complete information — send for Bulletin No. IEN-100.

STANDARD CONVEYOR COMPANY
General Offices —
North St. Paul, Minn.

*Standard*
GRAVITY & POWER
CONVEYORS

▼ BREEFIT—directly to IEN-9478 if you write the maker ▼

SEND FOR YOURS TODAY!

## HARPER COMPUTER of corrosion resistance

Gives you a quick, easy method of determining what metal alloys to use in connection with 133 different corrosive agents. Ideal for metallurgists, product designers, engineers, chemists, purchasing agents. Sized to fit your pocket. Developed by The H. M. Harper Co. America's leading specialist in non-ferrous and stainless steel fastenings.

FREE
MAIL COUPON TODAY

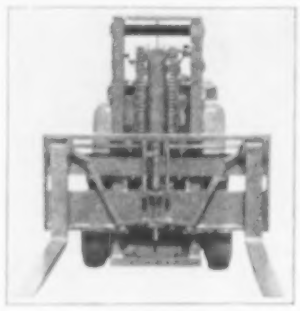
The H. M. Harper Company
8211 Lehigh Avenue, Morton Grove, Ill.
Please rush me free copy of the Harper Computer of Corrosion Resistance.

Name
Company
Address
City State

▼ BREEFIT—directly to IEN-9479 if you write the maker ▼

## TRUCK . . Lift fork attachment adjusts fork spread from driver's place

Source: TOWMOTOR CORP.
1224-26 E. 152nd St., Cleveland 10, Ohio



**Illustrated** is one of the company's power lift fork trucks, Model LT-48, with a new hydraulically adjustable fork attachment with which the driver can change fork spread as he moves to a load. The attachment suits the truck for handling varying loads without having to leave his seat for the fork adjustment. Hydraulic power is taken from the pump employed on the truck for the lift movement. The company supplies the attachment to order.

▼ BREEFIT—directly to IEN-9480 if you write the maker ▼

## MUFFLER . . For intake and exhaust on blowers, compressors and engines

Source: BURGESS-MANNING CO.
747-51 Park Ave., Libertyville, Ill.

Bulletin 236
shows dimensions

**New design** of intake unit to reduce check pulsations in air entering a rotary type blower or compressor has been added to the company's line of similar equipment previously described (IEN-206-B). The new unit is known as Series 900A. It is made in a range of sizes from 180 to 3,200 lb. in weight as compared to a previous design that weighed 5,500 lb. in the largest size. As in the previous design, the exterior is in the shape of a sound-proof box. The company has redesigned the series of low noise rotary exhaust mufflers as covered in Upage Digest, 4-1941, p. 204, "Stop Blower Shutdowns."

▼ BREEFIT—directly to IEN-9481 if you write the maker ▼

## VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: AMERICAN MACHINE & METALS INC.
552-56 12th Ave., East Moline, Ill.

**Vertical discharge** features the operation of this new roof exhauster with its motor-fan in line. The unit is intended for installations where the exhausted air requires discharge as high as possible to avoid reentrainment. The assembly is made in 20, 42 and 48-in. fan diameters. Capacities range to 10,000 cfm. A totally enclosed vertical motor and ball bearing grease fittings are standard equipment. A pressed hopper closes the vertical opening when fan fan is not in operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page M

▼ BREEFIT—directly to IEN-9482 if you write the maker ▼

## RESTORE Battered and Rusted Threads

Plate and some elongated—even heavily corroded threads quickly cleaned, so that nuts turn off and on freely. Think of the time and money saved! No more drilling or hacksawing to remove damaged bolts and studs, but use on your Buckingham Thread Cleaner, tighten the jaws, then turn.

Buckingham Thread Cleaners follow the pitch of any thread with just clearance from ¼ to 4". No need to insert or change the cutting jaws which easily to proper size on the threads. Jaws should be placed below the damaged area and then turned off through that section. See your nearest Buckingham dealer or write at once for further information.

| | Price |
|---|---|
| 6101 — ¼ to 1" root diam. | $ 6.50 |
| 6201 — ¼ to 2" root diam. | 8.50 |
| 6104 — ¼ to 2½" root diam. | 12.00 |
| 6106 — ¼ to 4" root diam. | 27.50 |
| 6204 — 1" to 2½" root diam. | 21.00 |

**BUCKINGHAM MANUFACTURING CO., INC.**
49-51 Travis Street Binghamton, N. Y.

▼ BREEFIT—directly to IEN-9483 if you write the maker ▼

**TASGON**

## CUTS THROUGH RUST!

Tasgon cuts through rust, gummed-up oil, tar, paint, quickly and efficiently . . . almost instantly loosens frozen nuts, unions, fittings.

Keep your tools clean . . . salvage valuable rusty machinery and parts . . . keep new machinery operating smoothly . . . cut down maintenance time *with Tasgon*.

FREE SAMPLE!
WRITE TODAY!

**Samuel Cabot, Inc.**
1035 Oliver Bldg., Boston 9, Mass.

Please send me a free sample can of Tasgon and complete information.
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ADDRESS
CITY STATE

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# B.F.Goodrich

## Let this man analyze your tire and wheel problems

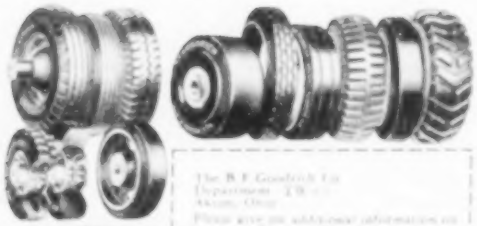
*He's impartial—unbiased—because he has the ONLY COMPLETE LINE*

## TIRE AND WHEEL ANALYSIS PLAN will cut your costs

You can save up to half of your industrial tire and wheel costs. The local B.F.Goodrich man who specializes in such service will, without obligation, survey your operation, study loads, hauls, equipment, floors and hauling surfaces. He will then recommend the best type, size, tread and compound for your work. He will make suggestions on tire care and maintenance.

His recommendations are impartial because only B.F.Goodrich offers a *complete* range of types, tread designs and compounds. You have 14 types of tires, 7 different tread compounds and a full range of sizes. Mail the coupon now and start saving.

A similar service is available for manufacturers of industrial hauling equipment.

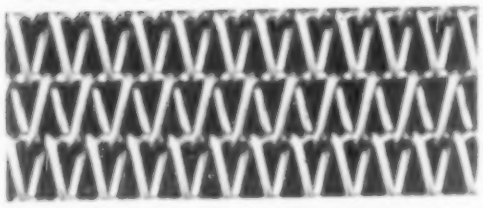


B.F.Goodrich

The B.F.Goodrich Co.
Department IN-10
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.
Name
Title
Company
City State

DIRECT—Identify by IEN-9486 if you write the maker

# WISSCO BELTS



**Cover a wide utility range**

**WISSCO METAL PROCESSING BELTS**

A PRODUCT OF WORKER DIVISION OF THE SCHIEFFELIN & CO. CORPORATION
Sales Office and Plant — 56 Sterling Street, Clinton, Massachusetts
Executive Offices — 488 Fifth Avenue, New York 18, New York
Sales Offices — Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • New York
Philadelphia • Pacific Coast—The California Wire Cloth Corporation, Oakland 10, Calif.

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# CHANGE MAN-HANDLING To MASS-HANDLING

Every handling job is better with Towmotor Mat*

*MH = Mass Handling

**TOWMOTOR** FORK LIFT TRUCKS and TRACTORS

HANDLING • PROCESSING • STORAGE • DISTRIBUTION

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**Put these advantages in your product with**

***Marvinol***

in hundreds of processes . . . in chemical and products, Marvinol is giving producers the characteristics that mean sales. Marvinol formulations are stable under heat, light and time . . . have high commercial stability, greater. Use competitive flexibility, outstanding resistance to chemicals, oils and acids. Let us show you how to secure Marvinol's outstanding advantages. All technical information furnished to our accident. Alternatives is a real dependent upon a technically sound plan. Marvinol makes the difference.

Write today for the latest technical information. Dept. 1-10, Naugatuck Chemical, Naugatuck, Conn.

***Marvinol***

Naugatuck Chemical

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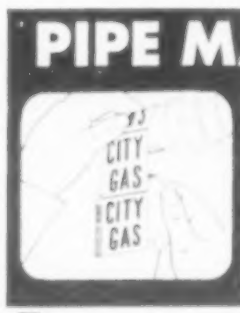
# PIPE MARKERS anyone can use— everyone can read




**QUIK-LABEL** Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABEL come on bands (only . . . stick without wrinkling. Names of materials printed in large block letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, *including all materials listed in ASA Standard A13,* available at Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Electro Finished to resist acid, grease, fumes, moisture . . . indoors or out. Replace faded, torn and dirty marking and hold identifying. Economical Marker fits a standard size piece of label for hand printing. QUIK-LABELS make your plant so that anyone who can read will know what's in them. *QUIK-LABELS leave no room for doubt . . . or tragedy.* Write for catalog and FREE SAMPLES today.

**FREE SAMPLES**

**W. H. BRADY COMPANY** | Established 1914

Manufacturers of Self-Sticking Tape Products

CHIPPEWA FALLS 5, WISCONSIN • Distributors in 125 Cities

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56

# NEW LITERATURE

Find various to advise you of available new information published by the manufacturers, specific products that offer the most for specification, use of the material, information or address as you may judge to be of use to you.

ADHESIVES — [illegible] IEN-9[illegible]

BATTERIES — [illegible] IEN-9[illegible]

BEARINGS — [illegible] IEN-9[illegible]

BENDING — [illegible] IEN-9[illegible]

BENDING — [illegible] IEN-9[illegible]

BOILERS — [illegible] IEN-9[illegible]

BROACHING — [illegible] IEN-9[illegible]

BURNERS — [illegible] IEN-9[illegible]

BURNERS — [illegible] IEN-9[illegible]

CASTEELAPING — [illegible] IEN-9[illegible]

CAPACITORS — [illegible] IEN-9[illegible]

CASTING — [illegible] IEN-9[illegible]

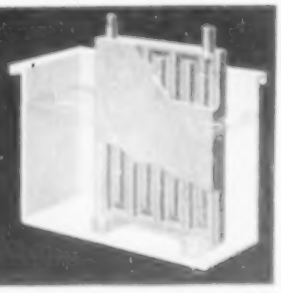
CHEMICALS — [illegible] IEN-9[illegible]

CIRCUIT BREAKERS — [illegible] IEN-9[illegible]

CLEANING — [illegible] IEN-9[illegible]

DIRECT—Identify by IEN-9490 if you write the maker

# Udylite Impervite GRAPHITE PLATE HEATERS



This plate type heat exchanger is specially designed for pickling and plating tanks and can be used for either heating or cooling. Strong and durable, the Impervite Plate Heater is built to withstand considerable shock. Each unit tested and thermal. Impervite Plate Heaters are offered by Udylite in a wide range of sizes which can be used in various combinations to handle any size tank. Write us today for detailed information about the Impervite Plate Heater.

PIONEER OF A BETTER WAY IN PLATING

**THE Udylite CORPORATION**
DETROIT 11, MICHIGAN

DIRECT—Identify by IEN-9491 if you write the maker

# THEY GRIND--NOT JUST RUB!

The RPM's may up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. This means faster work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U. S. A.

**Write for KIPP Air Tool Catalog AT 3006**

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# Plenty of Places...

**Where this 3-in-1 Workbench Will Save Time and Work**

IMMEDIATE SHIPMENT

**SERVICE CASTER & TRUCK CORP.**

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
See your classified Telephone Directory for name of nearest Service Distributor

IEN-9493

Carter

CUTS COSTS WAY DOWN!

CARTER RIGID WHEELS & TIRES

Carter rigid Wheels and 30" & 36" Quick-Change Tires are for heavy-duty high-speed operations. Tires won't throw even at 1800 r.p.m. Changed in 10 min. 20 years service on best machines. Carter products universally accepted as standard equipment by leading bandsaw manufacturers.

Write—

For free illustrated folder!

CARTER PRODUCTS COMPANY INC.

164 Michigan Trust Bldg. Grand Rapids, Mich.

IEN-9494

SAVE MONEY 2 WAYS

with the

Saranac Corrugated Fastener Driver

1 On your production wood splicing jobs

2 By turning wood scrap into usable material

Here's why this Saranac Splicer can save you extra dollars:

It cuts and drives its own fasteners — 4 to 8 corrugations long — from standard low-cost coil-wound stock. Drives fasteners from 1/4" to 3/4" wide into the hardest woods—or joins a hard board to a soft board. Repairs split boards — even anchors loose knots!

Make every piece of lumber count. *Prove to yourself* how SARANAC'S Corrugated Fastener Driver will pay its way in your plant — write for Bulletin 112 today!

DISTRIBUTORS INQUIRIES INVITED

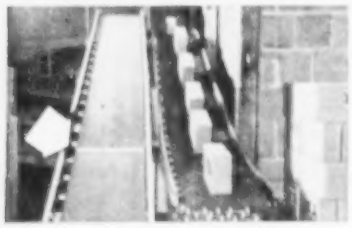
*"Over a Half-Century of Leadership"*

SARANAC MACHINE COMPANY
BENTON HARBOR, MICHIGAN

IEN-9495

ALLIGATOR

CONVEYOR BELT LACING



Every Tooth A Vise'

*in Long Continuous Lengths for Conveyor Belts . . . . .*

- Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- In countries where corrosion or rust is a problem specify Alligator made of Monel.
- For magnetic separators or non-sparking specify Alligator made of Everdur.
- Separable and Smooth on both sides.
- 12 sizes. For belts from 1/16" to 5/8" thick—and up to 48" wide.

*Order from Your Supply House. Ask for Bulletin A-60*

FLEXIBLE STEEL LACING CO. 4670 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

## NEW LITERATURE—Continued

*"Condensed data for busy readers"*

CLEANING — Bulletin 104, 4 pages. Describes Sandblast Cleaning Equipment. Pangborn Corp., Hagerstown, Md. IEN-01131

CONDUIT FITTINGS — Catalog 5000, 196 pages. Crouse-Hinds Co., Syracuse, N. Y. IEN-01132

CONSTRUCTION — Catalog 5, 16 pages. Describes Mixers, Pavers, Finishers, Bituminous Plant Mixers, Concrete Mixers, Pumps, Hoists, Cranes, Shovels, Dragline Buckets, Concrete Buckets, Tractors, Trailers, Bulldozers, Scrapers, Graders, Rollers, Tamping Rollers, Compressors, Pneumatic Tools, Drills, Hammers, Chisels, Vibrators, Concrete Finishing Machines, Concrete Mixers, Concrete Pumps, Concrete Spreaders, Concrete Vibrators, Concrete Finishers

▼ FREE!!!—Direct to you IEN-9500 if you write the maker ▼

You asked for it... HERE IT IS—

**AO's New Metal Ful-Vue Safety GOGGLE!**

HANDSOMER IN APPEARANCE • STRONGER IN PROTECTION

American Optical
SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

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**ALCOA ALUMINUM FASTENERS**

*"Outstanding in every respect"*

*Low price, handsome appearance and corrosion resistance* of Alcoa Aluminum Fasteners led Alumatic Corporation of America to standardize on them for storm windows and doors.

"We have been using these products for the past several years," says A. Zimmer, Alumatic engineer, "and have found them to be outstanding in every respect. In addition, they have proved to be the answer to many fastening problems that had previously given us considerable trouble.

"We are now using your aluminum sheet metal screws and rivets in our new Acralum combination windows. They have outstanding advantages in our fabricating operation, and *since the window is being sold at a low mass market price, the economy of these fasteners is important.*"

**WRITE FOR FREE SAMPLES**—If you have a corrosion problem, or if you make a product that can be dressed up with good-looking fasteners—you'll want to take a look at Alcoa Fasteners. *Just write,* stating the size and type fasteners you're interested in, to ALUMINUM COMPANY OF AMERICA, 2127K Gulf Building, Pittsburgh 19, Pennsylvania.

THE LOWEST-COST CORROSION-RESISTANT FASTENERS ARE

ALCOA *Aluminum* FASTENERS


## NEW LITERATURE—*Continued*

*"Check these to keep your file current"*

**DRIVES** — [illegible] IEN-9502

**DRIVES** — [illegible] IEN-9503

**DRIVES** — [illegible] IEN-9504

**DRIVES** — [illegible] IEN-9505

**DRIVES** — [illegible] IEN-9506

**DRIVES** — [illegible] IEN-9507

**ELECTRONIC PRODUCTS** — [illegible] IEN-9508

**FASTENINGS** — [illegible] IEN-9509

**FASTENINGS** — [illegible] IEN-9510

**FELT FABRICS** — [illegible] IEN-9511

**FILING** — [illegible] IEN-9512

**FILING** — [illegible] IEN-9513

**FLOORS** — [illegible] IEN-9514

**FOUNDRY EQUIPMENT** — [illegible] IEN-9515

**GAGES** — [illegible] IEN-9516

**GAGES** — [illegible] IEN-9517

**GRINDING** — [illegible] IEN-9518

**GRINDING** — [illegible] IEN-9519

**GRINDING** — [illegible] IEN-9520

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30*


▼ FREE!!!—Direct to you IEN-9503 if you write the maker ▼

A NEWS ADVERTISEMENT BY REMINGTON RAND INC.

**MAINTENANCE CONTROL . . . Booklet describes simplified low-cost system**

Source: REMINGTON RAND INC., Management Controls Reference Library, Room 2340, 315 Fourth Avenue, New York 10

A new **booklet** describing a highly effective system of maintenance control has just been published by Remington Rand.

**The system** described in this booklet is working successfully for many firms, large and small, in all kinds of business. The booklet shows how to avoid costly machine breakdowns, by a tested and reasonable method of scheduling periodic check-ups, thereby assuring the most efficient use of manufacturing man-hours and ensuring the productivity and life of motors, machines, and equipment. It details a proved method of eliminating lost motion by maintenance men and explains how vital parts and supplies are easily kept in balance. Another important benefit: you speed production deliveries . . . build customer good will.

**Especially remarkable,** the booklet shows how one firm cut a better maintenance job with less inventories of parts and supplies. You'll see simple systems by which these desirable results are obtained simply . . . that will less clerical help than is usually needed. A copy of this booklet, KD 440, "Simplified Preventive Maintenance Control," may be obtained by writing direct to the publisher, Remington Rand, or by using the Reader Service Form herein.

▼ FREE!!!—Direct to you IEN-9504 if you write the maker ▼

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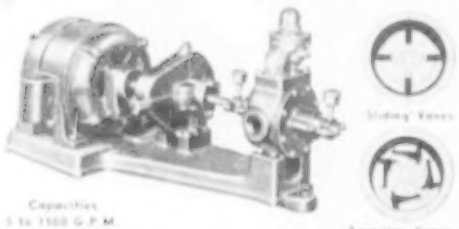
*For Most Industrial Liquids*

**BLACKMER** *Rotary* **PUMPS**

SPEED LIQUID MATERIAL HANDLING

*...Cut Handling Costs*




**CHOICE OF VANES CONTROLS EFFICIENCY**

Only Blackmer Rotary Pumps offer a choice of vane types (shown) that yields greatest pumping efficiency and cuts liquid material handling cost.

*"GET THE "FACTS"*

Bulletin 307, "FACTS," tells how Blackmer's choice of vane types enables you to specify a more efficient pump. Write for your copy.

**BLACKMER PUMP CO.—Grand Rapids, Mich.**

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MANY INDUSTRIAL **ROLL** PROBLEMS are solved by using

SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

*Industrial Roll Division*

RODNEY HUNT MACHINE CO.

171 Maple Street, Orange, Mass.

*Reg. U. S. Pat. Off.

BREVITY—Identify by IEN-9507 if you write the maker


SYNTRON

PARTS FEEDERS

Provide
Automatic
Oriented Position
Single Line Feeding

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.


BREVITY—Identify by IEN-9508 if you write the maker


CUT CLEANING COSTS as much as 90%

WITH HYPRESSURE Jenny STEAM CLEANER

IT'S 10 TIMES FASTER THAN HAND-CLEANING

In any plant, shop or factory, in any industry, Hypressure Jenny cuts and flushes away dirt and grease from machinery, tools, floors and walls . . . cleans windows, skylights, furniture, etc., in one-tenth the time it takes to clean by hand. This means a 90% reduction in cleaning costs, a cleaner, safer plant, increased production, lower fire insurance rates. And it can mean fewer costly shut-downs because periodic Hypressure Jenny steam cleaning often reveals unsuspected flaws and defects in equipment before failures occur. And when repairs are necessary, actual time studies reveal up to 40% savings in man hours when Hypressure Jenny is used to clean equipment before mechanics start working on it.

HYPRESSURE JENNY CLEANS—Machinery . Conveyors . Engines . Transformers . Hoods . Trucks . Tank Cars . Cranes . Shafts . Belting . Compressors . Buildings . Floors . Walls . Windows . Etc., Etc.

THIS BOOKLET TELLS THE COMPLETE STORY—
IT'S FREE—SEND FOR IT TODAY

HYPRESSURE JENNY DIVISION
Homestead Valve Manufacturing Co.
"Serving Since 1892"
P. O. Box 85 Carnegie, Pa.


BREVITY—Identify by IEN-9509 if you write the maker

Uncork Bottle-necks

STERLING
ELECTRIC MOTORS


## NEW LITERATURE—Continued

*"Alphabetically to assist in finding"*

**HANDLING**—Equipment for conveyor belts, chutes and ratchet conveyors. Spring Operations. 8 pages. Wilson Metal Products Co., 1200 W. 37th St., New York 18, N. Y. IEN-9501

**HANDLING**—Tool cabinets, tool supply stations, tool trucks, tool distribution and transportation. Catalog E 300. Chicago Tool Supply Co., Harvard & 12th Ave., Lexington 10, Ky. IEN-9502

**HANDLING**—Tote pans, crates and boxes to accommodate parts. Folder covering a 3 page catalog. Plastic Tote, 1300 E. Lincoln Ave., Madison Heights, Mich. IEN-9503

**HARD FACING**—Welding consumables. Application data. Data sheet. 4 pages. Tweco, 6.8 Mo. Compressor Co., 90 Industrial Park, Wichita, Kan. IEN-9504

**HEAT TREATING**—Electric conveyor furnaces, continuous annealing furnaces, pan quenchers. Folder 30. 100 4 pages. Surface Combustion Corp., 2000 N. Dixie Hwy., Toledo 1, Ohio. IEN-9505

**HEAT TREATING**—Carburizing compounds. Formulas, process details, applications, pan quenchers. Folder 30. 100 4 pages. Surface Combustion Corp., 2000 N. Dixie Hwy., Toledo 1, Ohio. IEN-9506

**HEATING**—Gas burner parts and gas for make-up gas for carburizing furnaces. Bulletin Series Bulletin 80. 12 pages. New York Blower Co., 7700 S. Dobson Ave., Chicago 19, Ill. IEN-9507

**HEATING**—Hard-facing and welding consumables, aluminum data, pneumatic machine fixtures. 36 pages. Tweco, Inc., 302 Concord Ave., La Porte, Wis. IEN-9508

**INSULATING**—Fiberglass insulating blankets, pipe covering, aluminum foil, fiberglass cement, asbestos cement. Catalog 200. 32 pages. Harry Coe, 1304 Albion St., Cambridge 38, Mass. IEN-9509

**INSULATING**—Fiberglass insulation, insulation data. Folder. 20 pages. Fiberglass Corporation, 100 Corporate Ave., Pittsburgh 22, Pa. IEN-9510

**LAPPING**—Machines for automatic lapping, grinding, polishing, finishing, accessories. Catalog 20. 20 pages. Gardner Machine Co., 1001 Cedar Ave., Cleveland 13, Ohio. IEN-9511

**LIGHTING**—Illumination research, lamp life, product uses, illuminated design, suggestions. "The Light Fantastic." 6 pages. General Electric Co., 1 River Road, Schenectady 5, N. Y. IEN-9512

**LOADING**—Equipment for low frame, high low dock units, for a railroad car. New or old models. Catalog 4. 4 pages. Mitchell Watchman & Co., 301 Washington St., Wayne, Pa. IEN-9513

**LOCOMOTIVES**—Diesel, steam, diesel-electric, mine, dock or yard locomotives. Bulletin LC-10. 10 pages. Plymouth Locomotive Works Div., 301 Eliot St., Plymouth, Mass. IEN-9514

**MARKING**—Steel stamps and dies. Plastic tags, labels, stencils, tag clamps, tag guns. Marking Devices. 36 pages. Herbert A. Kohn, 20 Eldridge St., 3rd Flr., New York 2, N. Y. IEN-9515

**METAL SPRAYING**—Equipment, wire for metal spraying, gas, office supplies, etc. Bulletin of B. 4 pages. Metallizing Engineering Co., 38-10 30th St., Long Island City 1, N. Y. IEN-9516

**METAL TREATING**—Hydrogen furnaces, continuous vacuum furnaces, continuous "Quick Refrigerator Line." 8 pages. Industrial Chemical Patent Co., P. O. Box 305 A, Ambler, Pa. IEN-9517

**METERS**—Tachometers, stroboscopes, 2 to 300 cps. Tach. to 12,000 rpm with chart, specifications. Folder 12-G100. 4 pages. Minneapolis Instruments, P. O. Box 5027 A, New Haven, Conn. IEN-9518

**MIXING**—Automatic flow meter for mixing, 10 to 1 ratio, accessories in metric and any metric. Proportioning equipment. Bulletin 500. 2 pages. Cook & Co., Jasper St., Warren, Pa. IEN-9519

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions . . . Ratings . . . See Page 50*

BREVITY—Identify by IEN-9510 if you write the maker


choose LAUSON

the long-life engine

• Insist on Lauson — the engine that's first in quality! Here are just a few of the superior construction features which make Lauson the Long-Life engine: Connecting rods have replaceable crank-pin bearing liners.

• Precision ball bearings on both ends of crankshaft.

• Flywheel generator rotating in oil.

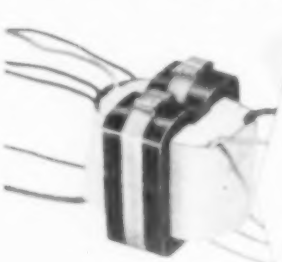
• Automotive-type "float feed" carburetor.

• Lauson original design provides direct stream of fuel on each both valves simultaneously.

• Always choose Lauson engines — a better buy because they're better built!

The LAUSON Company
Dept. 9 New Holstein, Wisconsin • A Division of Nat'l Gas Gasoline Corp. • Lincoln • PART EMERSON, LTD. • Kitchener, Ont. • CANADA


BREVITY—Identify by IEN-9511 if you write the maker

DO YOU HAVE A SPECIAL STRAPPING PROBLEM?

A builder of transformers found that cores could be assembled quickly and tied securely with A. J. Gerrard seals used in conjunction with steel strapping. They were applied with an A. J. Gerrard tool having a built-in strap cut-off.

Tell us about your special tying or securing problem. Perhaps we can solve it for you too.

STEEL STRAPPING

A. J. Gerrard & Co.
1950 Hawthorne Blvd., Melrose Park, Ill.
Chicago Suburb


BREVITY—Identify by IEN-9512 if you write the maker


TAKE A TIP FROM FIREMEN . . .

Specify

ALCO-LITE
Aluminum Ladders

Fire fighters need a ladder that is light (for quick maneuverability), strong (for safety under heavy loads), and durable (for low maintenance and replacement costs). That is why ALCO-LITE Aluminum Ladders are favorites in fire departments throughout the country . . . and that is why you can use them profitably in your plant. ALCO-LITE Industrial Ladders are made from the same high-strength aluminum alloy as ALCO-LITE Fire Ladders . . . in fact, the Type SL Single Wall Ladder illustrated is the identical ladder sold to fire departments. Write for Catalog describing the Type SL and eight other ALCO-LITE Aluminum Ladders.

Pioneer Builders of Aluminum Industrial Ladders

ALCO-LITE ALUMINUM LADDERS
ALUMINUM LADDER COMPANY
100 CARBIS STREET • ST. MARYS, PA.

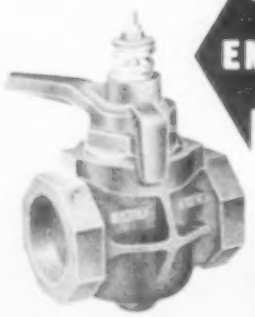

BREVITY—Identify by IEN-9513 if you write the maker


VALVES THAT DON'T LEAK!

No matter what flows through your pipe-line, the valves on that line WON'T LEAK if they're DeZurik Easy-Operating Plug Valves.

DeZurik rubber-faced plugs seal dead-shut on anything from gas to slurries—they do it time after time through long, tough usage, without lubrication or adjustment—and with positive savings in time and money.

A PIPE-DREAM FOR ENGINEERS



COMPLETE FREE CATALOG READY FOR YOU

DEZURIK SHOWER CO.
SARTELL, MINN.

▼ DIRECT—Identify by IEN-9514 if you write the maker ▼

8 ways better than old-fashioned friction tape

New Polyken **No. 163 ELECTRICAL TAPE**

Exceeds A.S.T.M. Specifications. Tape specifications blow right over. 1 Thinner, but just as strong. 2 Higher dielectric strength. 3 Better moisture resistance. 4 Stays quieter. Tape "hums" 5 Conforms closely to irregular surfaces. 6 Unwinds easily. 7 Doesn't tear. 8 Works easily in cold, damp weather. Easily to cut, damp weather. Easily to cut, damp weather. Easily to cut

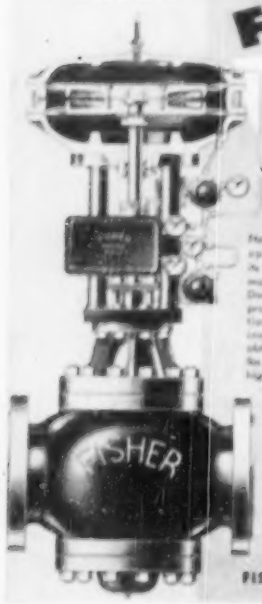
▼ REPRINTS—Identify by IEN-9521 if you write the maker ▼

A GIANT AMONG GIANTS

FISHER

*AMT

DIAPHRAGM MOTOR VALVES




Here, then thrust power up to 3000 lbs. for opening or closing at any point within its travel range. Full pneumatic performance. No springs, no levers or weights. Double diaphragm avoids backlash effects probable with single diaphragm construction. Fisher Positrol accurately positions every valve. In action, performance obtained with operating pressure up to 30 lbs. Designed for four stroke action and high stability.

Why? Gives extreme power to actuate large single-seated valves for tight shut-off on large pressure drops up to 3000 pounds unbalanced force.

*AMT

Write today for Bulletin 1700

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

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GENERAL BOX COMPANY . .
★★★★★ engineered shipping containers

GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchester. Continental Box Company, Inc., Houston, Dallas. General Box Company of Mississippi, Meridian, Miss.

▼ REPRINTS—Identify by IEN-9523 if you write the maker ▼

Slash cutting oil and coolant consumption

with NUGENT Pressure Filters

Wm. W. Nugent & Co., Inc.
415 N. Hamilton Ave. CHICAGO 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities


## NEW LITERATURE—Continued

*"Designations to help check your file"*

SCAFFOLDS — "Mono" tubular scaffold design, parts, repair information, load tables, portable, 16 p., illus. Wilson Scaffold Co., 1219 Woodlake Ave., Minneapolis 11, Minn. IEN-9251

SCREENING — Guide on screening, sieve analysis for all-purpose screening, conveyorized screen, Screenex, 1956, 16 pages, Lewis Bolt Co., 205 S. Michigan Ave., Chicago 4, Ill. IEN-9252

SCREW MACHINE PARTS — Data on specifications, process of stamps and knurlhead production, 16 pages, illus. Parker & Hampton, 100 Washington Blvd., Rutherford, N. J. IEN-9253

SEALING — Information on use of one of one and two-piece seals, automatic chart, Bulletin 6-56, 4 pages, illus. Illinois Products Co., 401 Walnut St., Morrisville, Pa. IEN-9254

SEPARATING — Data on separating from compressed air, gases or atmosphere and from compressing, Bulletin 156, 8 pages, G. P. Adams Co., 750 E. Park Drive, Buffalo 12, N. Y. IEN-9255

SLITTING — Slitting and roll welding machines, cut-off machines, sheet, Bulletin 256-56, 4 pages, illus. Lockwood Engineering & Machine Co., 1111 & 1113 Ave., Parkersburg, Pa. IEN-9256

SPRINGS — Standard assortments of extension and compression springs, specifications, Spring assortments, 4 pages, Park Spring Co., 36 Bishop St., Providence, R. I. IEN-9257

STEELS — Full steels for hard to shape applications, structure, heat treatment, suggestions on use, "Easy to Shape Steels," 16 pages, illus. Allegheny Ludlum Steel Corp., 450 Grant St., Washington, Pa. IEN-9258

STORING — Clean Power, manual and other charts of Power Plant, Industrial and other, Bulletin 1400, 200 pages, Bristol's Brass Clock Co., 100 Brass St., New Haven 20, N. Y. IEN-9259

SWITCHES — Scaler Type contact switch method, designs, illus. Ackerman Instrument, Bulletin 1-1, 16 pages, illus. Ackerman Controls, 1000 Corona, Long Island City 1, N. Y. IEN-9260

SWITCHES — A cross-reference of Micro Switch equivalents, cards and catalog, Bulletin 1-1, 4 pages, illustrations. Micro Co., 1000 W. Walton, Chicago 10, Ill. IEN-9261

TESTING — Laboratory, sample, test, cases, cases, data, use, cases, 16 pages, illus. Apex Lab. Equip. Co., 50 W. 17th St., New York 20, N. Y. IEN-9262

TESTING — Hydrostatic, pneumatic, 16 pages, illus. Specialties Inc., 1 Dearborn St., Chicago 10, Ill. IEN-9263

TESTING — Equipment, compressor, 12 pages, illus. Tinius Olsen Testing Mach. Co., 500 Hog Island Ave., Philadelphia 1, Pa. IEN-9264

TESTING — Equipment, specimen, 16 pages, illus. Engineering Laboratories, Bulletin 1-56, 4 pages, illus. Engineering Laboratories, Box 1, Cambridge, Ohio. IEN-9265

THERMOCOUPLES — Data, 4 pages, illus. Thermocouple Products Co., 4 Hayward St., East Cambridge 39, Mass. IEN-9266

TIMING — Electric, clock, accessories, 16 pages, illus. Bristol's Brass Clock Co., 100 Brass St., New Haven 20, Conn. IEN-9267

TRANSFORMERS — Step-down, series, 25-125 watts, from 208/240 volt source, data on 50 to 2500 watt units, Bulletin 501-170, 4 pages, Lenox Electric Co., 18 Hayes St., Clifton, N. J. IEN-9268

*All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 58*


▼ REPRINTS—Identify by IEN-9524 if you write the maker ▼

MULTISTAMP
STENCIL DUPLICATOR

Our 27th Year

No. 3 Package $19.50 COMPLETE

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR for
Shipping Tag Addressing
POSTCARD PRINTING
BOX MARKING

At Your Office or Shipping Room Supply Dealer

▼ REPRINTS—Identify by IEN-9525 if you write the maker ▼

Need top quality Welding Supplies . . .

Quickly?

Call U. S. Steel Supply Co.

■ Each of our warehouses from coast to coast is ready to give you fast delivery service on Stainless Steel Electrodes, Mild Steel Electrodes, Hard-Surfacing Electrodes and all the other items in our large stocks of welding supplies.

Whenever you need Welding Rod, Welding Machines, Welders, Protectol, C. Clamps or Protect-O-Metal for eliminating weld spatter, phone, write or wire our nearest warehouse. You'll get Service Plus.

WHEN YOU DEAL WITH US, YOU GET Service Plus!

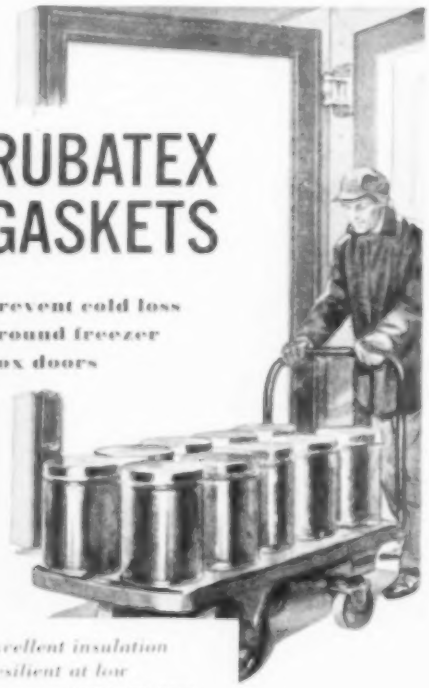
UNITED STATES STEEL SUPPLY COMPANY
Warehouses Coast-to-Coast
Headquarters: Room 204, 1 So. Dearborn St., Chicago 3, Ill.

UNITED STATES STEEL

▼ REPRINTS—Identify by IEN-9526 if you write the maker ▼

RUBATEX GASKETS

prevent cold loss around freezer box doors

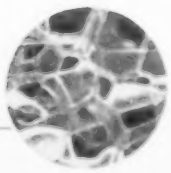


*Excellent insulation*
*Resilient at low temperatures*
*Zero moisture absorption*

A combination of ideal characteristics makes RUBATEX Closed-Cell Rubber the most efficient material for gasketing refrigerator and cold storage room doors.

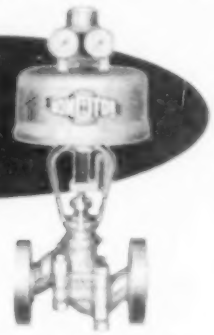
The dense closed cell structure of RUBATEX is permanently resilient and is unaffected by low temperatures. RUBATEX provides a tight seal, even over irregular surfaces, with a minimum of pressure. It has high insulating properties and cannot absorb moisture.

Use RUBATEX for your gasketing, cushioning or vibration damping applications. It is made in soft, medium and firm forms and in natural rubber and synthetic stocks. Engineering advice and assistance is available. For further information write for Catalog RBS-12-56, Great American Industries, Inc., RUBATEX Division, Bedford, Va.



RUBATEX® CLOSED CELL RUBBER

FREE!!!—Identify by IEN-9528 if you write the maker



# DOMOTOR CONTROL VALVE

**Stands up where other valves fail—**

*For Positive Control of Hard to Handle Fluids*

Sealed piston in dome actuated by internally controlled differential pressures (Patent pending). Stable valve action across single seat. Built on multi-type positioner and simple versatile valve body available in wide range of alloys for almost any fluid. Ideal for controlling flow of slurries, sludges, acids, caustics, etc. Positive bubble-tight shutoff with Teflon or other synthetic seal. Write for new Bulletin today!

**Look at these specifications**

- Pressures to 3000 psi
- Temperatures to 1000° F
- Sizes ½" to 4"
- Choice of alloys: Stainless Steel, Durimet 20, Hastelloy, Nickel, Carbon Steel, Bronze, etc.
- Quick change valve seat
- 50% weight reduction

*Investigate* DOMOTOR VALVES *Values*

**THE ANNIN COMPANY**

2500 UNION PACIFIC AVENUE • LOS ANGELES 21, CALIFORNIA

FREE!!!—Identify by IEN-9529 if you write the maker

# THIS IS IT! THE SEAL WE'VE BEEN LOOKING FOR!

YES! FABCO is the PREMOLDED CAULKING that fits all standard steel or aluminum roofing and siding sheets.

FABCO eliminates costly hand caulking by closing and sealing all openings between corrugated sheets and flat surfaces, such as roofing, flashing at corners, eaves, ridge and at cap, gables, gutters and around doors and windows.

FABCO provides firm sealing and lasting support, prevents caulking and deterioration of sheets.

FABCO prevents electrolytic corrosion by insulating aluminum sheets from steel construction members.

FABCO Closure Strips are premolded of naturally weatherproof rubber composition, neoprene composition, or sealed compound. They can be worked, cut punched or drilled with ordinary tools and are easily and quickly installed as sheets are laid.

For complete specifications and descriptive drawings of applications in most corrugated construction assemblies.

*Write for Bulletin 501-B TODAY!*

**FABRICATED PRODUCTS CO.**
**PITTSBURGH 16, PA.**

FREE!!!—Identify by IEN-9530 if you write the maker

# *Mechanic's* INSPECTION TOOLS WITH REPLACEABLE MIRRORS!

Telescoping handle extends to 18"

Model K-2 $1.75

Overall length 8½" Model B-2 $1.25

Overall length 7½" Model A-2 $1.00

- Perfect visibility all around
- Easily turned 360° ball joint
- Keep position until re-angled
- Sizes and shapes to meet all job conditions
- Replaceable mirrors
- Magnifier mirrors slightly higher

*Write for Catalog IE-5 when ordering*

**ULLMAN PRODUCTS CORP.** ULLMAN BLDG. B'KLYN 15, N. Y.

## *NEW LITERATURE*—*Concluded*

*"Send your own new literature for review"*

**TRANSFORMERS** . . . Electrical, cathodic, audio . . . transformers . . . Catalog 100, 20 pages. Chicago Transformer Co., 34 Division Ave., Brooklyn, Conn. IEN-9525

**TRANSFORMERS** . . . For measuring, testing, arc welding, lighting, transformers, chokes. Catalog 500, 20 pages. Central Transformer Corp., 168-50 Station St., New York 11, N. Y. IEN-9526

**TRUCKS** . . . Self-driven, hand lift trucks, capacity 1,000 to 4,000 lb., maximum elevation approximately 5 feet. 8 pages. Lyon Raymond Corp., 2101 Hamilton St., Greene, N. Y. IEN-9527

**TRUCKS** . . . Hand lift trucks, 3 to 30 cu. ft. capacity, 2 to 4 wheel, 2 wheel, 2 wheel, 2

FREE!!!—Direct to IEN-9535 if you write the maker

use Ingersoll
your prime source of supply
for SPECIAL STEELS

Alloy Steels . . . Armor Plate . . . Clutch Plate Steels . . . Tillage Steels . . . Soft Center Steel . . . Shovel Steels . . . Knife Steels . . . Saw Steels, including Hack Saw Blade Steels . . . TEM-CROSS Steel . . . Stainless Steels . . . INGACLAD Stainless-Clad Steel

**Ingersoll STEEL DIVISION**

BORG-WARNER CORPORATION
New Castle, Indiana
Plants: New Castle, Indiana; Chicago, Illinois; Kalamazoo, Michigan

FREE!!!—Direct to IEN-9536 if you write the maker

# DARTS

This True Ball Joint Makes the Difference

*Careful Special Grinding* of the seats ensures that every Dart has a joint with true-bearing surfaces. The reason you always get a snug fit and a drop-tight joint with Darts.

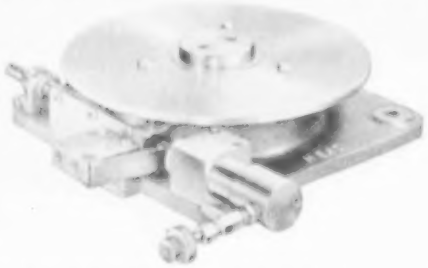
*Bronze to Bronze.* To ensure permanency *ball seats* are made of non-corroding bronze.

*Ball and Nut* are made of highest, air-refined malleable iron . . . practically indestructible. Another reason you get longer service with Darts. Always specify Dart for dependable service.

E. M. DART MFG. CO., Providence 5, R. I.

FREE!!!—Direct to IEN-9537 if you write the maker

## *Air Operated*
# ROTARY WORK FEEDER



Delds holds and delivers small parts to drill, tap, assemble, etc. Stations accurate to .007. Guaranteed against over-travel or "dropping." Indexes as slow as just to one-like, up to 12,000 per hour. Compact and sturdy, easy to set and hook up.

Standard dial plate 10", available to 15". For a more full, steady feed, up a new dial. Readily combines with "MEADMATIC" Timer, Air Hammer, Air Press, Drill Presses, etc. . . . to make electric completely automatic machine operation merely details.

*Write for full details.*

MEAD SPECIALTIES COMPANY
4114 N. KNOX AVE., Dept. EA-100 A, CHICAGO 41, ILL.

FREE!!!—Direct to IEN-9538 if you write the maker

## CLEANING . . Sweeping machine, engine drive, 42 and 54 in. widths

Source: WILSHIRE POWER SWEEPER CO.
4613-17 Alger St., Los Angeles 26, Calif.

Model 1000 is a new machine in the company's line of engine-driven floor-sweeping machines. It is available with a circular or brush sweeping 36 or 44 in. in width and with a rectangular-shape curb brush to provide widths capacities of 42 and 54 inches. The operator rides and controls the machine—movements at hand and foot levers—including one to raise the brush and leave it.

Various equipment picks up litter, dirt and deposits them in a hopper that can be emptied as necessary. The brush deposits these into a large dirt hopper. A guide frame in front of and above the curb brush prevents missing curbs and walks. The Curb-Sweeper Brushes come in horsepower.

FREE!!!—Direct to IEN-9539 if you write the maker

## LUBRICATING . . Bearing grease resists leakage from machine housings

Source: FISKE BROTHERS REFINING CO.
127-31 Lockwood St., Newark 5, N. J.

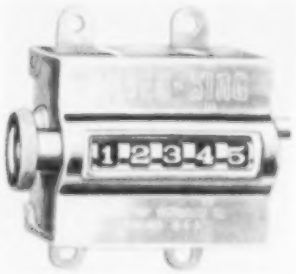
Lubriplate is the trade name

Series 300 is a new line of greases with fluid to heavy consistencies that will not soften or run at temperatures below 300 deg. F. It is permissible for use in portable electric tools.

FREE!!!—Direct to IEN-9540 if you write the maker

## COUNTING . . Wheel type assembly, speed to 4,000 counts per minute

Source: PRODUCTION INSTRUMENT CO.
700-10 W. Jackson Blvd., Chicago 6, Ill.




**Drive** for this new counter connects to a rotating shaft or element operating at speed to 4,000 rpm. Its standard 5 to 1 ratio is adjustable. The unit may be made for other ratios such as one count for each 10 revolutions. Rotation can be in either direction.

**Assemblies** are available with 5 or 7 number wheels. Assembly is in a steel housing with Plexiglas window. Dimensions are about 5 in. x 3 in. x 2½ inches. A count reset or key can be specified. The drive shaft, an enclosed Synchrony is both sides.

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page 36

FREE!!!—Direct to IEN-9541 if you write the maker

# WELL CAST

You've seen of a order like this, where costs could not come to life and Rejection on FREE!!!

And you can save more than just the same savings, with greater consistency and quality and lower costs.

Customers, when you specify WELL CAST castings, you know you are getting a castings experience from complete patterns. A Bar Equipment from metallurgical control, quality production to design.

Send your patterns or drawings.

Take to receive the Wellman Bronze & Aluminum Company.

Drop in Cause.

*"A Right Casting is the Right Casting"*

Well Made Wells is a trade mark
Well Cast Wells is a trade mark

THE WELLMAN BRONZE & ALUMINUM COMPANY
2510 EAST 93rd STREET • CLEVELAND 4, OHIO

FREE!!!—Direct to IEN-9542 if you write the maker

# ALOYCO 20 . . .

*the one best alloy*

for valves in sulfuric acid service!

Aloyco 20 has unequalled resistance to hot and cold sulfuric and to corrosive chlorides, and to most other acids. Valves are made of it in a complete range of types and sizes, screwed and flanged ends, in 150-lbs. and 300-lbs. pressure classes.

ALOYCO GATE VALVE No. 11

Aloyco 20 is practically unaffected in any concentration of H2SO4 at room temperatures. It is adequately resistant at the boiling point up to 50% acid strength. In concentrations between 50% and 70%, temperature is an influencing factor.

Our metallurgists will gladly confer with you regarding applications of Aloyco 20 and other corrosion resistant alloys.

ALLOY STEEL PRODUCTS COMPANY, Inc.
1311 West Elizabeth Avenue Linden, N. J.
Atlanta • Chicago • Houston • Los Angeles • New York • Pittsburgh • Washington

FREE!!!—Direct to IEN-9543 if you write the maker

LONG LIFE . . . DEPENDABLE SERVICE BUILT-IN

CLYDE IRON WORKS Inc.
DULUTH, MINNESOTA
SUBSIDIARY OF BARBER STEEL CORP.

FREE!!!—Direct to IEN-9544 if you write the maker

# The Quick, Easy, Handy Way to TAP BY HAND

. . . Adapts for LATHE USE

The Dahlstrom Tap Guide actually eliminates tap breakage . . . and saves more time . . . hours spent getting broken taps out of jobs. Saves time, too. Jobs is free course of the handle and the tap is done.

Dahlstrom TAP GUIDE — 52.50 F.O.B. ST. PAUL

▼ REPRINT—Identify by IEN-9545 if you write the maker ▼

▼ REPRINT—Identify by IEN-9546 if you write the maker ▼

▼ REPRINT—Identify by IEN-9548 if you write the maker ▼

## HEATING . . Gasoline torch with pump equipped aluminum housing

Source: OTTO BERNZ CO.
278-82 Lyell Ave., Rochester 6, N. Y.

▼ REPRINT—Identify by IEN-9549 if you write the maker ▼

## BRAZING . . Powdered alloy particularly to join stainless steel

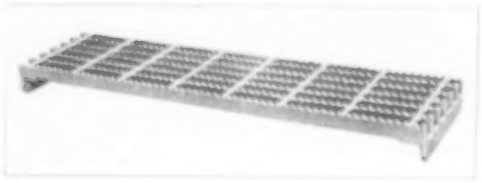
Source: WALL-COLMONOY CORP.
19343-47 John R St., Detroit 3, Mich.

Company offers engineering help

▼ REPRINT—Identify by IEN-9550 if you write the maker ▼

## FLOORS . . Serrated steel grating for catwalks, presents non-slip teeth

Source: WM. F. KLEMP CO.
6632-36 S. Melvina Ave., Chicago 38, Ill.



*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 36*

▼ REPRINT—Identify by IEN-9551 if you write the maker ▼

**KENT-OWENS**
*Milling Machines*

▼ REPRINT—Identify by IEN-9552 if you write the maker ▼

## The *Inexpensive* Way To Get RELIABLE VENTILATION!

WRITE FOR BULLETIN 3720 ON THESE POPULAR FANS—

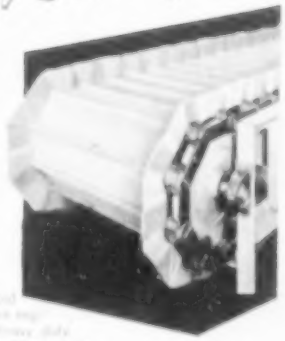
BUFFALO FORGE COMPANY
490 Broadway, Buffalo, New York

"Buffalo" BELTED VENT SETS

▼ REPRINT—Identify by IEN-9553 if you write the maker ▼

## *Apron Conveyors*

for those HARD-TO-HANDLE MATERIALS



MECHANICAL HANDLING SYSTEMS, INC.
4605 NANCY AVE., DETROIT 12, MICH.
Offices in Principal Cities

▼ REPRINT—Identify by IEN-9554 if you write the maker ▼

**WILLSON**
ALL PURPOSE
Approved Respirator

WILLSON

WILLSON PRODUCTS, INC., 217 WASHINGTON ST., READING, PA.

▼ REPRINT—Identify by IEN-9555 if you write the maker ▼

**Cut Your Costs with...**

**GRIGOLEIT MOLDED PLASTICS**

## Stock Pulls, Knobs and Pendants

Modern molded plastics parts by Grigoleit give you a cost-cutting advantage . . . speed production . . . pep up sales!

Write for complete catalog illustrating the many stock pulls, knobs and pendants available for prompt delivery.

THE GRIGOLEIT COMPANY
"Are Totally Given in Plastics"
702 S. NORTH ST., DECATUR, ILLINOIS

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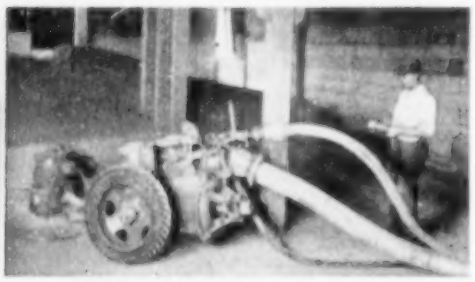


## FLOW IT OUT
### . . .with a FULLER-KINYON conveying system

The illustration above demonstrates one of the unique advantages of the Fuller-Kinyon Conveying System . . . the ease with which dry pulverized materials such as cement can be storaged directly from a ship's hold, box car, barge, etc. . . . by one operator.

It's all done with air, and based on the simple principle that any dry pulverized material, when aerated, can be made to flow like water through a pipe line. For sheer simplicity, convenience and low operation cost . . . it's *hard to beat*. It's fast, and its power requirements are low, per ton of material handled.

For additional information on these, and the many other unique advantages of the Fuller-Kinyon System, just write for the 22 page interesting Bulletin FK 30-A.

FULLER COMPANY, Catasauqua, Pa.
120 So. LaSalle St., Chicago 3
620 Chancery Bldg., San Francisco 4

▼ REPRINT—Identify by IEN-9557 if you write the maker ▼

KEEP DIRT OUT OF ALEMITE FITTINGS *prevent* SCORED BEARINGS

**S.S.WHITE ELASTOPLASTIC ALEMITE FITTING CAPS**

They're FLEXIBLE
- Easy on
- Easy off
- Stay put

These inexpensive plastic caps keep Sta-Alemite Hex Fittings clean and prevent dirt from being forced into the fittings when the grease gun is applied.

They're ideal for dirty or gritty operations. Made of black vinylite plastic, they're long lasting, retain their flexibility and are unaffected by oil, grease and gasoline.

Get full information and prices.

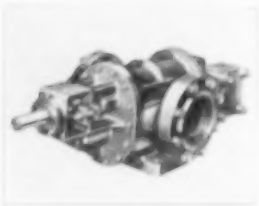
ASK FOR FREE BULLETIN

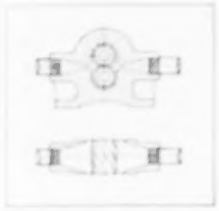
THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO.
Dept. NP, 10 East 40th St.
New York 16, N. Y.

▼ REPRINT—Identify by IEN-9558 if you write the maker ▼

## PUMP . . Gear design, to 300 gpm., at 360 rpm., employs venturi ports

Source: GEO. D. ROPER CORP.
301 Blackhawk Park, Rockford, Ill.





New size has been added to the company's line of gear pumps with the venturi suction and discharge ports previously described IEN-9502-47. The port design serves to spread the liquid across the full width of the helical gears for smooth flow and efficient action. The pump is designated 300 HHRS No. 2 (1 value 300 gpm. at 300 rpm.). It is secured for direct to geared-head motor, gasoline engine or by a power takeoff as on a truck. Intended use is in transfer pumping.

**Construction** includes a housing that can be arranged to specifications for steam heated operation or handling viscous fluids. Pumping unit on the shaft is supported by bronze sleeve bearings with an anti-friction ball bearing to take the thrust and driving load. The packing box at the drive end is fitted with a lantern ring. The pump-end parts are hardened alloy steel. The shafts are collar-hardened steel at the bearings and packing surfaces. A relief valve can be specified to back to assembly. Overall length is about 40 inches. Flanged connections are provided for 6-in. pipe.

▼ REPRINT—Identify by IEN-9559 if you write the maker ▼

## WELDING . . Spot weld head, pneumatic electrode pressure control

Source: RAYTHEON MFG. CO.
188-92 Willow St., Waltham 54, Mass.

**Weldpower** Model G is a new spot weld head in which the lower one of the 5/8-in. electrodes is mounted on an inverted piston that rides in a bore in the base and is supported on a metal bellows. The bellows is charged with compressed air by application of a hand pump at a fitting at the rear to apply upward pressure against the lower electrode of ½ to 16 pounds. By adjusting the movement in the upper part of the head the upper electrode can be brought down on a piece of work to depress the bellows for exact squeeze.

**The head** is designed for connection to a suitable power source and for operation by a foot pedal, connecting by a pinion-connected cable to a sheave at the rear of the upper electrode assembly. Rotating the sheave operates a cam for the vertical electrode movement. The control includes a pressure switch that closes the welding circuit at a predetermined electrode pressure. Accessory equipment is available for conversion to percussion and to series welding. Overall dimensions are 7 by 7½, by 12 inches. Weight is 35 pounds. Throat is 4 inches.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10*

▼ REPRINT—Identify by IEN-9560 if you write the maker ▼

**MELRATH GASKETS**

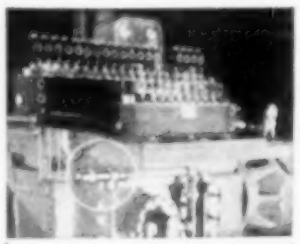
## FULL OPEN HEAD PAIL AND DRUM GASKETS

Designed to meet every service requirement. Tubular and solid rounds or sponge rubber for containers of liquids and semiliquids. Melco Fabritex Gaskets for use in drums of dry or powdered and semisolid products.

"There's a Melrath Gasket for Every Purpose!"

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

▼ REPRINT—Identify by IEN-9561 if you write the maker ▼



*In Distinguished Company*

The photo shows how dependable FULFLO valves are used on this Clark CRA-4 electric driven compressor at 1500 BHP capacity.

Practically any type of equipment in which constant oil pressures are IMPERATIVE can use FULFLO Valves economically. They're CHATTERLESS, require no maintenance after installation.

Pipe sizes: ¾" to 2" standard pipe thread; STD 300# American Range valves 1" to 2½".

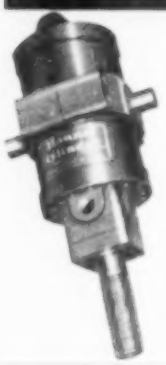
To establish and maintain uniform oil pressures in compressors
CLARK BROTHERS, Inc.
OLEAN, NEW YORK
use
FULFLO
BY-PASS VALVES

Write on your letterhead for FREE copy FULFLO MECHANICAL DATA BOOK. No obligation.

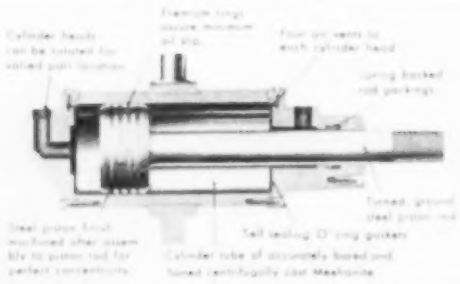
THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

▼ REPRINT—Identify by IEN-9562 if you write the maker ▼

*As Always...*
**Designed and Built For Finest Performance . . .**



# Hanna
## HYDRAULIC
# Cylinders




FOR 50 YEARS the Hanna nameplate has signified the finest engineered products. Meeting JIC Hydraulic Standards is nothing new for Hanna High Pressure Hydraulic Cylinders. They have always been designed, engineered and built for mature top-quality, dependable performance.

There is a complete line of standard Hanna H.P. Cylinders . . . for working pressures up to 1500 psi . . . to suit nearly every mounting requirement . . . to supply safe, smooth, economical power on thousands of industrial applications.

*Send for New Catalog*
For complete information and specifications on Hanna H.P. Hydraulic Cylinders, ask for new Catalog 333-A.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . SYSTEMS
1762 Elston Avenue, Chicago 22, Illinois

▼ REPRINT—Identify by IEN-9564 if you write the maker ▼

Do you have an unusual sound deadening or noise quieting problem? Then you should investigate Tufflex—the resilient, felted wood fiber material that cuts to any size or shape. Highly efficient in sound absorption, Tufflex also provides thermal insulation. Amazingly resilient, Tufflex, too, cushions impact. For a wide variety of uses, Tufflex is made in moisture resistant, fire retardant and mildproof form—and in blankets or sheets of various thicknesses, widths and densities. For scientific information about Tufflex, write us—

DEPT. 126-00 FIRST NATIONAL BANK BLDG. ST. PAUL 1, MINNESOTA

▼ REPRINT—Identify by IEN-9565 if you write the maker ▼

▼ REPRINT—Identify by IEN-9566 if you write the maker ▼

▼ REPRINT—Identify by IEN-9567 if you write the maker ▼

## PROTECTING . . Combined gas mask and arc welding helmet protects worker

Source: ACME PROTECTION EQUIPMENT CO.
3035-9 W. Lake St., Chicago 12, Ill.

For a weld is a new gas mask that is also equipped with welding masks to protect the arc welder working in air contaminated or on jobs where gas is being generated as a result of the welding action. The mask can be applied with a chemical fume canister or with a supply of compressed air from a clean source that will accompany the filters.

▼ REPRINT—Identify by IEN-9568 if you write the maker ▼

## SEALING . . Plastic base liquid for threaded connections in pipe lines

Source: WEST CHESTER CHEMICAL CO.
P. O. Box 39-N, West Chester, Pa.

Lists at $4.50 in gallon cans

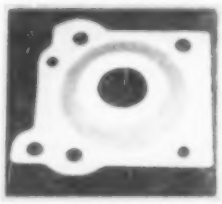
Ut-Seal is a paste-like liquid compound developed for use in sealing liquid petroleum gas and refrigerants. It is of construction for plastic flow to insure the formation of pipe joints without metal-to-metal contact, to avoid galling. Applicable to all metals, this liquid acts as a lubricant prior to assembly (but does not supply substitute if which need that it remains permanently). A sealing compound can be taken apart without damage to the threads.

The material is marketed in stock in original and home-filled pints, half-pints, quarts, gallons, and drums. It is an inert hydrocarbon which remains in the temperature range. It is non-toxic, prevents corrosion in the compounds. Directions. Check seams to be sealed and clean to bright finish.

▼ REPRINT—Identify by IEN-9569 if you write the maker ▼

## DIAPHRAGM . . Silicone coated orlon in sheet form or finished diaphragms

Source: CONNECTICUT HARD RUBBER CO.
405-9 East St., New Haven 9, Conn.



Characteristics featuring the company's new silicone-coated orlon diaphragm material include flexibility for sensitive response to pressure changes, long flexing life, good tear-resistance and dielectric strength, conformability and resistance to heat and cold in a range from minus 75 to plus 200 degrees F. overall.

The material is available in sheet form measuring .01 or .017 inch. Thickness of an finished diaphragms is specified on order. Customers have to the designation.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10*

▼ REPRINT—Identify by IEN-9570 if you write the maker ▼

▼ REPRINT—Identify by IEN-9571 if you write the maker ▼

▼ REPRINT—Identify by IEN-9572 if you write the maker ▼

For top economy combined with quality, you can't beat Rapistan's exclusive new line of Cold-Forged casters! Cold forging flows steel molecules to points of greatest wear, insures uniform strength throughout, provides exceptional durability—at amazingly low cost. Double ball raceways. Enclosed grease reservoir. Rugged top plate and yoke. 3½", 4", 5", 6" mounted rubber or plastic wheels. Models with thread guards. Capacity 140 to 400 lbs.

The RAPIDS-STANDARD COMPANY, Inc.
208 Rapistan Building
Grand Rapids, Mich.

Representatives in Principal Cities

Rapistan
CASTERS AND TRUCKS

▼ REPRINT—Identify by IEN-9573 if you write the maker ▼

BREVITY—Identify by IEN-9574 if you write the maker

# FREE!

## 4 helpful data sheets on Alemite lubrication fittings

Three handy-lifetime data sheets give specifications for all types and sizes of Alemite Fittings. Enable you to quickly, accurately select and specify the right Alemite fitting for every bearing. Simplify ordering, save time!

Write today for your free set. Address Alemite, Dept. K-10, 850 Dearborn Place, Chicago, Ill.

**ALEMITE**

*Industrial Lubrication Equipment*

Alemite Product of Stewart-Warner

BREVITY—Identify by IEN-9575 if you write the maker

# VAC-IT does all your cleaning JOBS

The durable Doyle Vac-It is constructed to handle any cleaning job in your plant efficiently and without the necessity of changing parts. Wet and dry cleaning jobs are all the same to the Vac-It. Dirt and dust are removed from plant and office floors and walls . . . overhead pipes, production line machinery and installations are quickly cleaned and kept free from clogging dirt and metal scraps with the Doyle Vac-It and Doyle equipment. The Vac-It does not just shift around . . . it picks it up and removes it from the plant.

The powerful suction of the Doyle Vac-It also removes fuller's earth, emulsion or water at the rate of 120 gallons per hour.

Vac-It will make all your cleaning jobs easier, faster and less costly.

Write for complete data folder

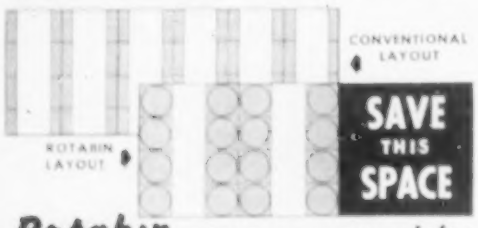
*Doyle* VAC-IT

**DOYLE VACUUM CLEANER CO.**

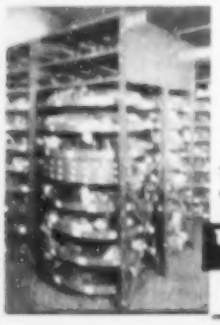
2215 Stevens St., S. W. Grand Rapids 7, Michigan

BREVITY—Identify by IEN-9576 if you write the maker

# TURN STOREROOM AISLES INTO EXTRA SPACE




***Rotabin** storage saves aisles*



Mine the "gold" that's in your plant! Get extra space for storage or production without increasing overhead. Reduce servicing time and waiting time, step up plant efficiency.

SEND FOR COMPLETE DATA

FOLDER 220 is a "gold mine" of storage helps. Fully illustrated.

**THE FRICK-GALLAGHER MFG., CO.**
**WELLSTON, OHIO**

SALES AND ENGINEERING
404 Shubert Bldg., Phila. 2, Pa.

BREVITY—Identify by IEN-9577 if you write the maker

## HEATING . . Dielectric equipment, 18 to 21.8 kw. at 5.5 to 41 megacycles

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden, N. J.

**Frequency** is adjustable in single increments by three new Type 15-31 electronic dielectric generator by means of two interchangeable tank inductances and a movable shorting bar. Power output is controlled after the range by a motor-driven non-fusion with positive control. The equipment is mounted in a copper-plated cabinet for radiation control. There are no exposed power terminals. The continuous load circuits are free from hazardous ac voltage. Side doors are equipped with key locks. Interlocks, grounding bars and grounding switches are standard equipment. Overall dimensions are about 40 in. 31 ½ 75 inches. Weight is 2,200 pounds.

**Input** is from a 3-phase 50/60 cycle ac line to 220 volts with maximum line current at 100 amp. for no-load input at 5.5 kw. and full load at 30 kw. The high frequency output is obtained from a stabilized self-excited oscillator employing two of the company's heavy-duty air-cooled Type 860-A power tubes. These tubes are supplied with high voltage dc by a 3-phase full wave rectifier operating on the input line. Anode input is rated at 32 kw.

**Applications** include dielectric heating operations on paper, raw wood sawmilling, rubber, textiles, food products.

BREVITY—Identify by IEN-9578 if you write the maker

## NUT DRIVING . . Hopper feed machine has range from No. 6 to 5/16 in. nuts

Source: DETROIT POWER SCREWDRIVER CO.
2803 W. Fort St., Detroit 16, Mich.

**Any shape** of nut that can be selected and fed through a chute in uniform position can be fed, positioned and driven to a predetermined torque in this new machine. The new design parallels and is based upon a good number of the parts and mechanisms employed in the company's previously developed screw driving equipment for high-speed production application in product assembly.

**Nuts are filled** into a hopper at the side of the machine and from there the machine actions are automatic under positioning actuation. Electrical controls are centered in the column and are accessible back of a cover plate at the rear. Maximum effective stroke is 8 inches. Throat measures 12¼ inches. Distance from table to spindle is 0 to a maximum of 15 inches. The machine stands about 72 in. in height and occupies 25 by 34 in. of floor area.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

BREVITY—Identify by IEN-9579 if you write the maker

# 5 MACHINES IN 1!

**LULL**
# Traveloader

IT'S NEW BY LULL . . . this economical handling machine . . . Operates on Single Gasoline Engine . . . Operates on Single Gasoline . . . Operates on Single Gasoline . . . Operates on Single Gasoline

▼ PREFIX—Identify by IEN-9583 if you write the maker ▼

▼ PREFIX—Identify by IEN-9584 if you write the maker ▼

▼ PREFIX—Identify by IEN-9586 if you write the maker ▼

## VALVE . . Solenoid operated 4-way, pneumatic or hydraulic, to 150 pounds

Source: BARKSDALE VALVES
4903-7 Santa Fe Ave., Los Angeles 58, Calif.

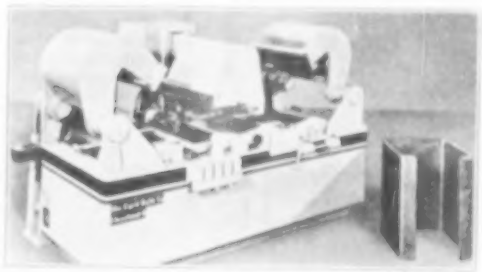
**Construction** [illegible]

**Built into the body** [illegible]

▼ PREFIX—Identify by IEN-9587 if you write the maker ▼

## BENDING . . Tangent type machine folds metal sheet to form a housing

Source: CYRIL BATH CO.
6935 Machinery Ave., Cleveland 8, Ohio



**Four folds** are made in sequence in pairs by this new machine to form the back, sides and front flanges of a metal housing for a washing machine. Each folding operation employs a swinging and turning movement to produce bending action without tendency to draw the metal so a flat blank previously perforated can be formed without pulling any of the perforations out of position.

**Start** is by pressing a pushbutton after which the machine moves through a sequenced cycle and stops for removal of the finished work and to receive a new flat blank. Each machine is built to perform specified work. The assembly shown measures about 11 by 8 by 6 feet.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ PREFIX—Identify by IEN-9588 if you write the maker ▼

▼ PREFIX—Identify by IEN-9589 if you write the maker ▼

▼ PREFIX—Identify by IEN-9590 if you write the maker ▼

▼ PREFIX—Identify by IEN-9591 if you write the maker ▼

▼ BREEZE-Identify by IEN-9592 if you write the maker ▼

# JOB PROVED

## TRICO "Powder-Packed" FUSES AND "Kliplok" CLAMPS

- REDUCE FUSE BLOWS
- CONSERVE POWER
- LOWER FUSE COSTS
- GIVE 3 TIMES THE SERVICE

"Kliplok" can be used on ALL fuse clips. Especially recommended for use with Thermal or Dual-element fuses because of their design and long time-lag characteristics. WRITE FOR BULLETIN NO. 7

TRICO FUSE MFG. CO. Milwaukee, Wis.



▼ BREEZE-Identify by IEN-9593 if you write the maker ▼

# Atkomatic

## VALVES

Available in a wide selection of types for pressures up to 3000 pounds. ATKOMATIC Valves are extra rugged for extra service in thousands of industries all over the nation. They have proved their ability to stand up under long and severe punishment. Simple and compact, they provide trouble-free operation either in your plant or on your product. Get the facts about ATKOMATIC!

ATKOMATIC VALVE COMPANY, INC.

*Send for Literature*



▼ BREEZE-Identify by IEN-9594 if you write the maker ▼

# B. F. Goodrich SPEED SELECTOR!

★

Available for immediate delivery — No increase in price!

*Rapid speed changes from 0 to 700 r.p.m. at constant torque*

B.F.Goodrich
FIRST IN RUBBER



▼ BREEZE-Identify by IEN-9595 if you write the maker ▼

## SEALING . . Split mandrel machine completes seam in plastic cylinders

Source: TABER INSTRUMENT CORP.
107 Goundry St., North Tonawanda, N. Y.

**Model 135** Plastic Cylindrical Fabricator is a new split-mandrel machine in which a cylinder of heat-sealing plastic can be formed over a mandrel and the longitudinal seam completed by application of electric heat and pressure. The split mandrel permits adjustment through 2 in. in diameter by turning a knob on the machine top. A set of five mandrels provides for cylinders measuring 2½ to 8½ in. in diameter and to 10 in. in length. Temperature is controlled by a built-in variable transformer.

**The heat** and pressure-applying head is brought down on the work and released by operating a ball-bearing treadle. A wick type solvent applicator is located on the right-hand side. The machine is a companion to the Model 135 cylinder bender which prepares the ends of a completed plastic cylinder to receive cardboard disc and cover in manufacture of complete transparent-wall containers. Fabricator list price is $725.

▼ BREEZE-Identify by IEN-9596 if you write the maker ▼

## SWITCH . . Sensitive snap acting, rating is 10 amperes on 220-volt ac.

Source: EXHIBIT SUPPLY CO.
4220-28 W. Lake St., Chicago 24, Ill.

**Silver contacts** are carried at both ends of the current-carrying contact spring in this new switch. The contacts time to close on stationary contacts after breaking from similar stationary contacts. It is snap action by depressing a spring-loaded plunger. They break from the upper contacts and return to the normal position when the plunger is released. The switch is enclosed in a plastic housing that measures 1¼ in. in length by ⅞ in. in width and height. The plunger adds 0.42 in. in height.

**Applications** are in limit, control, safety and interlock operations. Metal housings can be supplied for locations subject to moisture, lubricants, dirt. The assembly is a single pole, double throw, double throw design that can be wired for two circuits if desired, alternately open and closed, or for a single circuit that will be normally open or normally closed. Operating force is 32 oz. with release force of 2 ounces. Pretravel is .021 inch. Movement differential is .020 inch. Overtravel is .100 in. minimum. Electrolube is the trade name.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 48*



▼ BREEZE-Identify by IEN-9597 if you write the maker ▼

# YALE MIDGET KING ELECTRIC HOIST OPERATES FOR A FEW CENTS A DAY

- Adds economy to the time and effort saving efficiency of electric hoist operation.
- Compact, strong and durable. Has lifetime gears and precision ball bearings.
- One-hand bar-grip control leaves one hand free to guide the load.
- Load brake interlocked with motor brake for double safety.
- Capacities from ¼ to 2 tons.

Bulletin sent on request

YALE — THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES



▼ BREEZE-Identify by IEN-9598 if you write the maker ▼

# MICROCASTINGS *Cut Cost 60%*

ELIMINATE POROSITY • MACHINING

The part shown at left was required to be porosity free and of stainless steel. Producing this part as a sand casting resulted in a considerable loss due to porosity. Machining the part from bar stock proved too costly.

**Substantial Savings with Precision Casting**

This same part produced by the Microcast Process of precision casting was structurally sound, dimensionally uniform, and to such close tolerances that virtually no machining was required. The problem of porosity was also eliminated. The savings effected amounted to 60% over the previous method of manufacture.

WRITE FOR FREE BOOKLET

Comprehensive 16 page booklet gives many applications together with specifications and a complete step-by-step explanation of the process itself.

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.
224 East 29th Street—New York 16, N. Y.
715 East 69th Place—Chicago 37, Illinois
Visit Austenal's booth No. 324 at the Metal Show in Chicago October 23 to 27.



▼ BREEZE-Identify by IEN-9599 if you write the maker ▼

# NO MORE "CUT-RATE" PORTABLE HEATERS ON MY JOBS — IT'S TOO COSTLY!

ONLY UNCONTAMINATED AIR HEATERS ARE ABSOLUTELY SAFE ON YOUR CONSTRUCTION JOB!

IT'S [illegible] to another contractor friend who has found out that old-fashioned heating is not anything but penny pinching the high cost of underpaying. The quick way to prevent this [illegible] is to use Herman Nelson portable heaters. They [illegible] you don't [illegible] A heating method that [illegible] Will [illegible] "[illegible] down" [illegible] Herman Nelson Portable Heaters [illegible] HERMAN NELSON PORTABLE HEATERS are the only [illegible] good investment.

END WINTER SHUTDOWNS by renting a Herman Nelson Portable Heater on the job. Heaters that combine [illegible] capacity [illegible] — will save [illegible] and [illegible] Use it for thawing [illegible] equipment, to dry plaster or protect concrete pours. It heats and ventilates storage sheds, [illegible] and buildings under construction. Less [illegible] also [illegible] to [illegible]

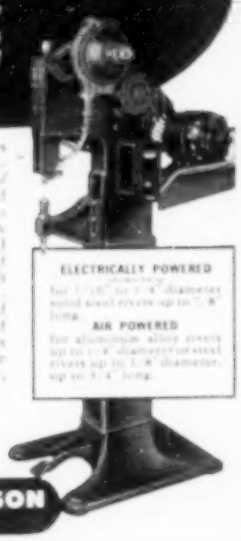
SAFE, PRACTICAL ECONOMY — Does not [illegible] Herman Nelson is a heating and ventilating [illegible] rugged, heavy duty service. It's available in models with [illegible] [illegible] temperature control [illegible] [illegible] heaters to insure fuel [illegible] operations. Its rugged "[illegible]" [illegible] and [illegible] are found in [illegible] heating devices.

ONE MAN JOB — [illegible] "[illegible]" [illegible] Herman Nelson [illegible] and [illegible] [illegible] [illegible]

▼ REFER (Answer) by IEN-9601 if you write the maker ▼

# Top Speed with T-J RIVITORS

**. . . Automatically Feeds and Sets Solid Rivets!**



On countless assembly jobs today—T-J RIVITORS are doing the rivet setting *faster and better!* T-J feeds and sets solid rivets *automatically* . . . no manual rivet handling . . . easy for women operators. T-J produces a solid rivet joint of 10% to 15% greater strength—a completely filled hole . . . no flashing . . . a neat, balanced head. Handles many types of rivets . . . saves labor . . . cuts costs! Write for bulletin. The Tomkins-Johnson Company, Jackson, Michigan.

**ELECTRICALLY POWERED**
for 1/16" to 1/4" diameter solid steel rivets up to 7/8" long.

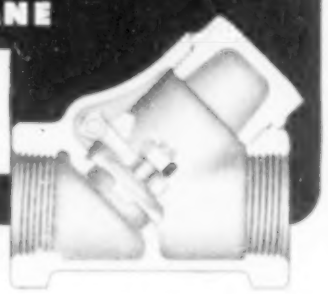
**AIR POWERED**
for aluminum alloy rivets up to 1/4" diameter or steel rivets up to 1/8" diameter, up to 5/8" long.

FOR TOUGH JOBS
**TOMKINS-JOHNSON RIVITORS**

▼ REFER (Answer) by IEN-9602 if you write the maker ▼

# NEW . . . re-grinding BRASS SWING CHECKS by CRANE

Y-PATTERN
200 AND
300-POUND



You get better service from . . . easier servicing of . . . new Crane Brass Regrinding Swing Checks. They give ample flow capacity, fast closure, easier access to internal parts. Features below show how these valves assure dependable operation . . . freedom from high maintenance costs.

**QUICK CLOSURE AGAINST BACKFLOW**—Properly balanced disc closes of own weight on 45° angle seat when flow stops. Since disc swings in direct relation to flow . . . closing as flow diminishes . . . backflow never gains excessive velocity.

**INCREASED FLOW CAPACITY**—Crane Y-Pattern body has full area at all points. Smooth interior contours reduce pressure drop and flow resistance to the minimum.

**SIMPLER TO SERVICE**—Large cap opening on same centerline as seat opening, gives perfect "in-line" access. Valves can be regrouted without removing body from line.

**LONG-LIVED MATERIALS**—Body is Crane Special Brass, a high grade alloy used for high pressure valves at temperatures up to 550° F. Hinge pin is aluminum-silicon bronze.

**SEND FOR THIS NEW FOLDER**—Includes all essential specification data, service recommendations, list prices. See your Crane Man, or WRITE FOR FOLDER AD-1950.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
*Branches and Wholesalers Serving All Industrial Areas*

No. 36. 200-Pounds steam at 500° F. 400-Pounds cold water, oil, gas.

No. 38. 150-Pounds steam at 500° F. 225-Pounds cold water, oil, gas.

No. 76E. 300-Pounds steam at 550° F. up to 1000° cold services. Sizes: ½ to 3-in. Screwed ends.

No. 77E. 300-Pounds steam at 550° F. 500-Pounds cold services. Sizes: 1 to 3-in. Flanged ends.

*EVERYTHING FOR EVERY PIPING SYSTEM*

**CRANE**

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▼ REFER (Answer) by IEN-9604 if you write the maker ▼

## CONVEYING . . Wire belt assembly for horizontal curves, incline runs

Source: UNION STEEL PRODUCTS CO.
405 Pine St., Albion, Mich.

Wire belt made up of steel rods linked on their ends constitutes the belt in this new Wenzberg conveyor. The links permit the belt to shorten on one side, expand on the other for movement around guided low friction metal curves. Sometimes another like belt is closed loops to provide turns in one direction and then another as well as incline sections for moving up or down. Sizes, load capacities, speeds, motions are to specifications.

▼ REFER (Answer) by IEN-9605 if you write the maker ▼

## SCREW DRIVING . . Magnetic bits to hand start recessed head screws

Source: OWATONNA TOOL CO.
371 N. Cedar St., Owatonna, Minn.

New bit is made with a magnetic tip and a shank with a jointed handle to hold screw with. Designed to feed and drive recessed heads. The bit is made to plus for No. 1 to No. 4 screws in other head designs. The overall sizes for these are 7, 6 and 9 inches.

▼ REFER (Answer) by IEN-9606 if you write the maker ▼

## DRYING . . Compartmented jar to dry and store laboratory samples

Source: BETHLEHEM APPARATUS CO.
823 Front St., Hellertown, Pa.

Dri-Jar is a new wide-mouth jar for measuring 3 by 7 in. with a screw-type lid by which a vacuum or atmosphere of four inches results. The bottom shelf stays the bottom of the jar indefinitely, when the lid is removed. One piece, to provide space for a supply of desiccant that will absorb moisture from the air whenever the jar is open, or moisture on the shelves.

*All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . . Description . . . Ratings . . . See Page 30*

▼ REFER (Answer) by IEN-9607 if you write the maker ▼

**FOR LOW COST AND BIG RESULTS**
**Feed Your Presses With**

# LITTELL

**STYLE "M" AUTOMATIC ROLL FEED**

**FOR SPEED** . . . With Style "M" automatic feeding your press can easily attain drive speeds of 100 strokes per minute on feed of 100 strokes per minute or 4,000 stampings an hour at 100 strokes per minute.

**FOR VERSATILITY** . . . Style "M" feed handles right or left-and-front to back. Feed direction can be reversed for simple reversing dials. Feed lengths per stroke up to 1 in. stg. with standard gears and 2 in. stg. with compound gears.

**FOR ADAPTABILITY** . . . Style "M" is adjustable to any standard power press. It feeds coil stock up to 8" wide and up to .125" thick (12 gauge).

**FOR SAFETY** . . . Style "M" continuous feeding keeps hands and fingers away from danger. Automatic shuts down when stock runs out.

**FOR DURABILITY** . . . Style "M" is built with hardened and ground feeding rolls and the other moving features have ample steel. Roll feeds accurate and dependable since 1918.

**FOR ECONOMY** . . . Style "M" feeding is so fast it gives your press the lowest manpower cost. It can cost less per stamping for machining price saved.

WRITE FOR CATALOG

**F. J. LITTELL MACHINE CO.**

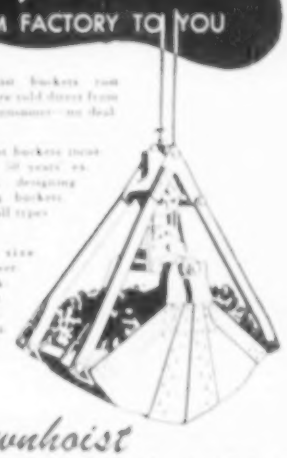
ROLL FEEDS • DUAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES

4231 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

▼ REFER (Answer) by IEN-9608 if you write the maker ▼

# Buy a Better Bucket FOR LESS MONEY Buy Brownhoist

DIRECT FROM FACTORY TO YOU



• Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.

• Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.

• Standard size tipperserve, power wheel and link type Brownhoist buckets are available for immediate shipment.

**Brownhoist**

Write for illustrated catalog of Brownhoist Buckets

INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

▼ REFER (Answer) by IEN-9609 if you write the maker ▼

# Soldering Time Cut 30% with IDEAL Thermo-Grip

By using Thermo-Grip to solder wire connections in its fluorescent fixture ballasts, Radionic Transformer Company, Chicago, reports time savings of 30%. It is also getting better connections at lower unit cost.

**NEW Low-Cost Model Now Available**

ANY soldering job is easier and faster with IDEAL Thermo-Grip—the improved soldering method used by thousands of manufacturers for solder wire, terminals, lugs, tubing, etc. Remarkable heating principle provides instant concentrated heat . . . assures complete adhesion of solder. Cheaper . . . no wasted material, time or current. Safer . . . no open flame or fumes. Size for every soldering or brazing job.

Distributed Through America's Leading Wholesalers

"Standard" 100C Watt Model with "Pistol", "Lever" and "Pencil" attachments also available.

**FREE TEST**

IDEAL INDUSTRIES, INC.
[illegible] Park Avenue
Hillside, Illinois

Please arrange FREE Thermo-Grip demonstration and send catalog data.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▼ REFER (Answer) by IEN-9610 if you write the maker ▼

# Want a really dependable source of AIR POWER?

First, send for this Bulletin 1041 showing a full range of compressors from 1/2 to 15 h.p. providing pressures up to 1,000 lbs.

Select the size you need and you'll find you're set for many years of trouble-free service and freedom from repairs. Ingersoll-Rand Type 30 Compressors are of sound design and durably constructed to give dependable service at full load. Air cooling, automatic controls and other features make it the best buy.

**Ingersoll-Rand**

11 Broadway, New York 4, N. Y.

▼ REPRINT—Identify by IEN-9611 if you write the maker ▼

## DON'T BE A SLAVE TO LIGHT SWITCHES

You don't have to turn the sun on and off. Why not forget about your own electric lights, too, by installing G-E Time Switches?

**YOU'LL SAVE** on the time and trouble of switching your lights manually.

**YOU'LL CUT POWER COSTS** that mount up when you leave your lights on overtime.

General Electric time switches are ideal for process timing, yard lighting, pump and blower control, floodlighting, and many other uses. Here are two popular models.

The T-27 Time Switch ... up to 12 operations per day ... automatic dial accurate.

The T-47 Time Switch from 5 minutes to 22 hours between ON and OFF operations.

Ask your G-E representative to show you the way to greater savings with time switches. Specialist Dept., General Electric Co., Schenectady 5, New York.

TIME SWITCHES

GENERAL ELECTRIC

▼ REPRINT—Identify by IEN-9612 if you write the maker ▼

## for fast, easy floor care . . .

*. . . there's nothing like a*

**Clarke**

CLARKE FLOOR MAINTAINER

Scrubs, waxes, polishes, steel wools floors, shampooes carpets. Finger-tip safety switch. Adjustable handle. Self-lifting wheels.

CLARKE HURRIKLEEN ELECTRIC MOPPER

Instantly picks up 1/16 inch water. Enables one man to do the work of ten men with industrial mops.

CLARKE HEAVY DUTY WET AND DRY VACUUM

Powerful suction quickly picks up water, dirt, grit. Quick draining dump valve eliminates heavy lifting.

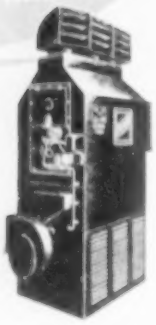
Write for catalog or free demonstration.

Sold & Service Branches in All Principal Cities

Clarke SANDING MACHINE COMPANY 2810 Clay Ave. Muskegon, Mich.

▼ REPRINT—Identify by IEN-9613 if you write the maker ▼

MOST HEATING METHODS End up BY WARMING THE AIR WHY NOT BEGIN WITH IT?



DRAVO Convectofin HEATERS

DRAVO CORPORATION

DRAVO BUILDING, PITTSBURGH 22, PA.

Sales Representatives in Principal Cities

Also sold and serviced in Canada by Marine Industries, Ltd., Sorel, Quebec

▼ REPRINT—Identify by IEN-9614 if you write the maker ▼

## SPRING . . Double end spiral unit for spring operated drive assemblies

Source: HUNTER SPRING CO. 3 Spring Ave., Lansdale, Pa.

**New application** for the company's "Negator" spring, made of pre-stressed, flat spring steel, is in the driving element in various devices such as timers, motion picture cameras, recorders, back-lash eliminators, balancing devices and in retracting mechanisms similar to the 30-ft. measuring tape shown in the illustration. The company is prepared to supply engineering assistance in specific designs.

**The spring**, previously discussed Hy-Pro 2820-30 for duty as a spring, is made in a range of lengths, widths and steel gages. It is characterized by its constant torque output. Through its action a rolling tape is rolled by the large number of turns that can be wound in a single setting. In the 30-ft. tape retractor, as an example, the spring is 300 in. in length by ¾ in. in width and is made of .005 in. steel.

**Operating principle** is based on the fact that energy is stored in such a manner of length as the spring is wound from an initial position of, say, at a point in line as at A in the illustration, to a reverse bend on a larger radius as at B. The greater the difference in the radii, the greater will be the applied winding torque for a spring of given size. When the spring then winds or rewound it will pointed to the starting position exerting constant torque as it moves.

▼ REPRINT—Identify by IEN-9615 if you write the maker ▼

## PRESS TOOLS . . Roll type feeder 4 sizes for 3 to 9 in. strip stock

Source: BENCHMASTER MFG. CO. 2950-54 W. Pico Blvd., Los Angeles 6, Calif.

**New press feeder** mounts on a punch press to handle work from left to right, right to left or front to back in either push or pull operation. It is equipped with a angle bracket to assemble on the press bed or bolster with provision for vertical adjustment to align the feed jaws with the die. Four sizes will handle strip stock to 3, 5, 7 and 9 in. in width by ⅛ in. in maximum thickness.

**Drive connects** to the crankshaft and, by means of an adapter, an adjustable crankpin and a link adjustable in length between the pin and a friction clutch in the feeder. The pin can be set over in its slot in the adapter for feed action in any amount to 2 inches. In addition to punch press application the mechanism can be applied on other equipment requiring work advance in intermittent adjustable increments up to its rated maximum.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ REPRINT—Identify by IEN-9616 if you write the maker ▼

NOW! a really new kind of time recorder

THE Cincinnati CLIPPER

World's First and Only Consecutive Spelling Up-the-Date Time Recorder

FREE ON REQUEST

THE CINCINNATI TIME RECORDER COMPANY

▼ REPRINT—Identify by IEN-9617 if you write the maker ▼

"Catsup ON YOUR ICE CREAM?"

Just because you need catsup on your steak, the waiter shouldn't suspect you use it on the rest of your dinner too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't suspect that the same oil is best for all bearings on that machine. In many cases it isn't.

**OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.**

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

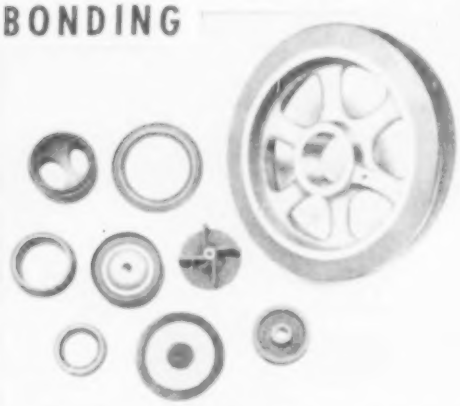
*Write for free Price Guide Catalog*

GITS BROS. MFG. CO.

1854 S. Kilbourn Ave. • Chicago 23, Ill.

▼ REPRINT—Identify by IEN-9618 if you write the maker ▼

## RUBBER-TO-METAL BONDING



We bond rubber to metal parts in molds to provide the designer with an efficient method of simplifying design and cutting costs in applications requiring shock absorption, sound abatement, electrical insulation or conductivity, corrosion-resistance, protection against abrasion, etc. Send specifications and prints, or request our engineers' recommendations.

Acushnet PROCESS COMPANY NEW BEDFORD, MASS., U. S. A.

Address all correspondence to 760 Belleville Avenue

▼ REPRINT—Identify by IEN-9619 if you write the maker ▼

*New!*

## TRANSALOID

TRANSPARENT NEGATIVE PAPER

*Saves up to 50% in costs!*

*The ideal medium for true to scale reproductions of tracings, all types of diazo prints, white prints, and for making offset plates*

We will send you 1 dozen sheets 10" x 12" Transaloid Negative Paper at the special price of $2.00 postpaid. If you are not completely satisfied, we'll refund your money.

The Haloid Company, 50-68 Haloid St., Rochester 3, N. Y.

BRANCH OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN-9620 if you write the maker

## CUT YOUR PACKAGING COSTS

**ONE MACHINE MAKES THE BAG FROM A ROLL OF STOCK—FILLS—SEALS**

Bartelt

By combining standard base machines with standard filling, counting, or measuring devices Bartelt can produce economically a "tailor-made" machine ready to handle your particular requirements. This machine can produce a bag from any heat-sealing film, paper or foil. Everything from hardware to soup-mix can be packaged. Send us your packaging problems for analysis.

*Automatic • Versatile • Fast*

Write for details today

**BARTELT ENGINEERING COMPANY**
323 Madison St., Rockford, Illinois

BREVITY—Identify by IEN-9621 if you write the maker

## Better Built HEAD & EYE PROTECTION • WELDING & CUTTING EQUIPMENT

DOCKSON GOGGLES are correctly designed to give the utmost in comfortable and specific protection. Goggles for any hazard. Built for Better Service. Series 60 Monolite Chippers' Goggle shown.

DOCKSON FACE SHIELDS are featherweight but engineered for utmost safety and durability. Adjustable without slipping or sticking. Series 1120 shown, and 15 other models. Built for Better Service.

DOCKSON WELDING HELMETS AND HANDSHIELDS are dependably tough, easy to wear and instantly adjustable. Leak-proof seams and Federal Specifications plates insure utmost safety. No. 1250 Turretype Helmet shown.

DOCKSON WELDING AND CUTTING EQUIPMENT includes combination outfits, welding and cutting torches, attachments, gauges and all accessories. No. 145 Hi-Speed Welding and Cutting Outfit shown.

THERE IS A DOCKSON DISTRIBUTOR NEAR YOU. NAME ON REQUEST. Send for new catalogs on the complete DOCKSON line.

**Dockson CORPORATION**
3839 WABASH • DETROIT 8, MICHIGAN

BREVITY—Identify by IEN-9623 if you write the maker

## BOILER . . Electrically heated, six sizes, 3 to 25 bhp., 50 lb. pressure

Source: LIVINGSTONE ENGINEERING CO.
102 Grove St., Worcester 5, Mass.

**Model 100** is a new design in the company's line of electrically heated boilers for pressure and process uses. It is built in six sizes rating 3 to 25 bhp., all for pressure to 50 pounds. Dimensions range from 17 by 30 by 46½ overall to 40 by 60 by 54 inches. Operation is on 230, 440, 550-volt single- or polyphase. Each boiler is built to ASME Code specifications. Each is National Board inspected and stamped and a certificate of Boiler Ship Inspection is issued. The unit also is listed by Underwriters' Laboratories Inc., and carries the UL Re-Examination Service Seal.

**Two drums** are mounted side by side vertically in the housing as in previous designs. One contains a set of vertical electrodes and a steam outlet connection. The other carries the water level gage glass. The two are connected together at the bottom for water flow in either direction. They connect at the top for flow toward the steam outlet but with a check in the opposite direction to the gage-equipped drum.

**Demand for steam** results in slight lowering of pressure in the electrode-equipped drum as the higher pressure in the other drum will cause the water level to rise along the electrodes. This provides additional heating contact to make steam more rapidly. Slow up in demand lowers the level around the electrodes and the steaming action is slowed down.

BREVITY—Identify by IEN-9624 if you write the maker

## VENTILATING . . Centrifugal blower for exhaust service, 420 to 60,400 cfm.

Source: ROBINSON VENTILATING CO.
1948 Harmony St., Zelienople, Pa.

**Type-AE** designs are single-inlet centrifugal exhaust blower fabricated from steel plate in welded assembly. The impeller is mounted on a cold-rolled steel shaft supported in self-aligning ball bearings. Drive can be arranged for direct or belt-connected motor on the box type bearing base at the side of the blower housing.

**Fifteen sizes** rate 12 by 5 in. to 40 by 24¾ in. impellers. Speeds range from 800 to 4,500 rpm on the smallest unit, 180 to 915 rpm. on the largest. The blower housing measures about 7¾ to 35⅝ in. in width, 25½ to 114¼ in. in height with delivery horizontal and at the bottom. Bulletin 5300, 20 pages, presents illustrated description and tabulated capacity and dimension data for each size in the line.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-9625 if you write the maker

## NO PUSH NO PULL with Moto-Bug

WHEN you haul with Moto-Bug you have full power forward and reverse . . . for traveling 1½ to 4 m.p.h. in either direction . . . for backing up . . . for spotting. There's no pushing, no pulling. Operator takes it easy . . . rides on rear step . . . has positive steering wheel for effortless driving. Handy 32" width clears narrow doorways, crowded aisles . . . turns in own length. Simple, standard-make 4 h.p. gasoline engine takes full load up 20% ramps. Carries 10 cu. ft. in big-capacity hopper . . . 1200 lbs. on sturdy 4-ft. flat-bed platform. Fork-lift attachment available. You'll be surprised at the low initial cost . . . Moto-Bug quickly pays for itself with more production per man-hour. Get the facts from your Kwik-Mix distributor, or write us NOW.

**KWIK-MIX COMPANY** PORT WASHINGTON, WIS. (Kwikmix Subsidiary)
Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

BREVITY—Identify by IEN-9626 if you write the maker

## There's a Century MOTOR To Supply Dependable Power For All Popular Applications

CENTURY FRACTIONAL HORSEPOWER MOTORS are ruggedly constructed for heavy duty industrial and appliance use. They furnish smooth quiet power . . . and are remarkably free from vibration. Here are some of the types available:

| | |
|---|---|
| TYPE CSH | Capacitor start induction single phase |
| TYPE SP | Split phase induction, rigid base |
| TYPE SC | Squirrel cage polyphase |
| JET PUMP | Capacitor start, single phase |
| TYPE SP | Split phase induction, cushion base |
| OIL BURNER | Special design, flange mounting |
| TYPE RS | Repulsion start induction, brush lifting |
| TYPE DM | Direct current, in many ratings |
| UNIT HEATER | Smooth, quiet performance |
| GEAR MOTOR | Compact, rugged, ball bearing equipped |

Century motors are available in a wide range of types—in sizes from 1/6 to 400 horsepower. Specify Century for all your requirements.

**CENTURY ELECTRIC COMPANY** 1806 PINE STREET, ST. LOUIS 3, MISSOURI
Offices and Stock Points in Principal Cities

BREVITY—Identify by IEN-9627 if you write the maker

## Severance DEBURRING CUTTERS

HIGH SPEED CARBIDE

Unequalled for power and hand deburring
Sectional pattern teeth give shearing action

**Severance INSIDE DEBURRING CUTTERS**
SECOND-HAND ON-SITE
Select 45° High Speed cutters from 28 standard sizes and 30° cutters from 33 sizes—from ¼" to 2" diameters.
Both angles can be supplied in CARBIDE

**Severance OUTSIDE DEBURRING CUTTERS**
SECOND-HAND ON-SITE
For speedy light deburring of rod ends and tubing O.D.'s, either off-hand or in screw machines. Select 30° cutters from 14 standard sizes and 45° cutters from 10 sizes—up to 4 inch diameter.
ANGLES 30° & 45° C/S
Both angles can be supplied in CARBIDE

**OUTSIDE CHAMFERING MILLS**
Operate in machines to perform heavy chamfering without chatter—in above size range and angles.

HEADQUARTERS FOR DEBURRING AND CHAMFERING TOOLS DEVOID OF CHATTER

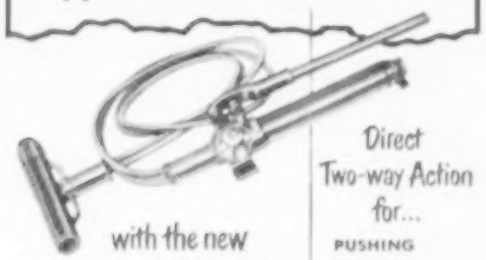
**Severance HAND DEBURRING CUTTERS**
"A Twist of the wrist" easily bites off the burr left by drill or punch.
Ten standard sizes for ¼ to 2" diameters.
Write For Bulletin 16-D

Complete REGRINDING Service . . by New Tool Craftsmen
— Savings are then multiplied —

**SEVERANCE TOOL INDUSTRIES, Inc.**
740 Iowa Ave. Saginaw, Michigan

BREVITY—Identify by IEN-9628 if you write the maker

## Applications unlimited...



with the new Hein-Werner PUSH and PULL Hydraulic Jack

It pushes and pulls with one ram—just turn release valve to right or left. Remote control pump operates at any angle and in any position. Available in 4, 10 and 20 ton capacities with a wide range of attachments. See your industrial supply distributor or write us.

Direct Two-way Action for...
PUSHING
PULLING
BENDING
MOVING
LIFTING
LOWERING
STRAIGHTENING

Hein-Werner HYDRAULIC JACKS

**Hein-Werner Corporation** Waukesha, Wis.

BREEZE—Identify by IEN-9629 if you write the maker

THIS NEW SHEAVE is the lowest-cost way of controlling speeds while machines are running. One sheave does everything automatically. Speed changes from 1½ to 60 hp 100% range, 2 to 1 ratio.

Can this new sheave show you the way to increase production by setting operating speeds at exactly the right tempo for highest production? How to improve quality, or change to new materials, all at the twist of a wrist? For complete facts and figures on how the new *Vari-Pitch* Automatic Sheave can save you money, call your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7121. A 3024

*Vari-Pitch* is an Allis-Chalmers trademark

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS**

BREEZE—Identify by IEN-9630 if you write the maker

**BEST FOR EVERY FOLDING CHAIR PURPOSE!**

- DURABLE—strong steel frame, reinforced
- SAFE—no tipping, pinching, snagging hazards
- COMFORTABLE—extra wide, extra deep seats and backs
- CONVENIENT—fold quietly, quickly, compactly
- RUBBER SHOES—long life, replaceable
- THREE SEAT STYLES—formed steel; formed plywood; imitation leather upholstered

OVER EIGHT MILLION IN USE!

WRITE FOR DESCRIPTIONS AND PRICES

*American Seating Company*
Grand Rapids 2, Michigan
Branch Offices and Distributors in Principal Cities

BREEZE—Identify by IEN-9631 if you write the maker

# QUICK FACTS about *Carpenter* STAINLESS TUBING

A T F

—guaranteed on every shipment

These useful bulletins give you technical information on corrosion resistance, physical constants, fabrication, etc. Return the coupon for your set of Carpenter Stainless Tubing QUICK FACTS Bulletins.

**RETURN COUPON FOR YOUR BULLETINS**

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

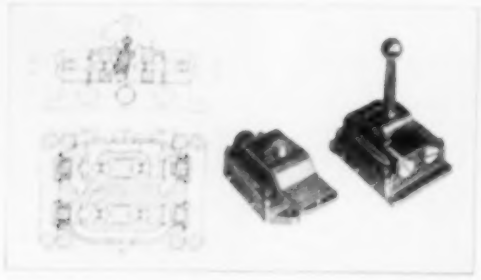
Please send me a set of QUICK FACTS for Users of Stainless Tubing, and put my name on the list to receive future bulletins.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

BREEZE—Identify by IEN-9632 if you write the maker

## VALVE . . Four way pneumatic for small cylinders in jigs, fixtures

Source: ROSS OPERATING VALVE CO.
118-22 E. Golden Gate Ave., Detroit 3, Mich.

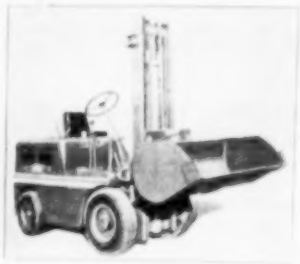


**Series 550** is a new assembly of valve and separate base to permit manifold mounting to which the base ports can be specified in the sides or bottom. Port connections are ¼ or ⅜ in. in two available sizes. The valve can be fitted with a vertical or horizontal handle with spring return if desired. The handle can be replaced with a double or single-treadle foot lever, also with spring return if it is wanted. Two or three-position locking screw is available.

BREEZE—Identify by IEN-9633 if you write the maker

## TRUCK . . Power shovel attachment for company's 1 to 3½ ton trucks

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.



**Widths** range from 38 to 72 in. and capacities from .8 to 1.5 cu. ft. in this new snap-shovel attachment for the company's fork-lift trucks. A hydraulic cylinder controlled by an auxiliary valve tilts the shovel from a carrying position 30 deg. above horizontal to dumping position 15 deg. below. The piston rod is chromium plated for wear resistance. The cylinder is bound and protected by a wiper in the head.

BREEZE—Identify by IEN-9634 if you write the maker

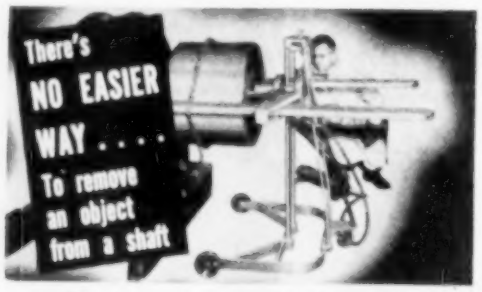
## MANAGEMENT . . Merit-rating methods for employees and supervisors described in new book

American Management Association
330 W. 42nd St., New York 18, N. Y.

**How to rate** subordinates and how to evaluate ratings by others are described specifically in new 192-page book, "Rating Employee And Supervisory Performance". List price is $3.75. Six major sections carry titles of basic principles and techniques of merit rating, toward more scientific rating, special adaptations of merit rating, company case histories, applying the results of merit rating, the rating form.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREEZE—Identify by IEN-9635 if you write the maker




*The New, Improved Hydraulic*

# PULLEY PULLER

Enables one man to remove a pulley, gear, pinion, or other object from a shaft in minutes! No crow bars, sledges, or blow torches. No damage. Puller is adjustable, easily moved, rugged. Hundreds now in use in industry.

5-ton size **$62.50**
*
20-ton size **$290.00**
*
50-ton size **$655.00**
(F.O.B. Factory)

*Write for complete information — Catalog A*

**INDUSTRIAL ENGINEERING EQUIPMENT CO.**
122-124 E. 4th St. Davenport, Iowa

BREEZE—Identify by IEN-9636 if you write the maker

## Cuts grinding time in half

*Savings pay for tools in 5 months*

THIS manufacturer of materials handling equipment was using universal electric grinders when the Rotor Application Engineer called to find ways of cutting grinding costs. The Rotor Application Engineer recommended replacement with Rotor Air Grinders and demonstrated them with these results:

*Grinding time* cut 50%, due to greater cutting power and higher speeds.

*Operating conditions improved* with lighter-weight, cooler-running tools.

In labor savings alone, Rotor Air Grinders actually paid for themselves in 5 months.

Similar possibilities may exist in your plant too. Call the Rotor Application Engineer for an unbiased analysis of your needs.

AIR O'TOOL

**THE ROTOR TOOL CO.**
CLEVELAND, OHIO

BREEZE—Identify by IEN-9637 if you write the maker

**FREE! Send for Folder 50M for full information**

**Anti-Corrosive Metal Products Co., Inc.** SINCE 1927
*Manufacturers of STAINLESS STEEL FASTENINGS*
CASTLETON-ON-HUDSON, NEW YORK

BREEZE—Identify by IEN-9638 if you write the maker

# TIMING EQUIPMENT

## CONTROLS VARIABLE DURATION OF A PROCESS CYCLE

This self-contained timer automatically starts or stops a process cycle after a predetermined lapse of time. It is available in four ranges maximum at 5, 15, 30 minutes, and 5 hours.

Two mechanism designs include Model 308-R to break the control circuit at the end of a timing period and Model 308-B to break one circuit and make another at the end of the period.

Contact rating is 800 watts at 110 or 220-volt ac. List price is $36 for Model 308-R, $40 for Model 308-B.

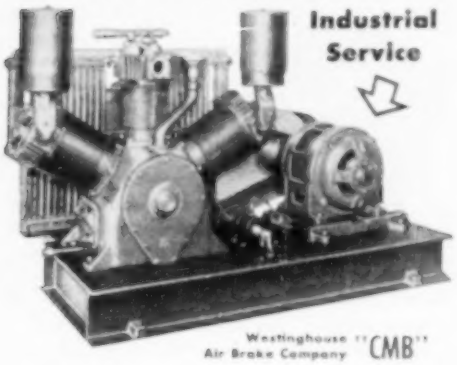
Construction includes a synchronous driving motor, magnetic clutch, interval-setting knob and dial, in a metal housing with black ripple finish. The housing is made with knock-out openings for wiring and is available with a glass-covered dial.

**Bulletin 770 provides design and operating details and includes circuit diagrams**

**THE PARTLOW CORPORATION**
4 CAMPION ROAD NEW HARTFORD, N. Y.

▼ DREXITE—Identify by IEN-9639 if you write the maker ▼

## Here's a Husky "He-Man" AIR COMPRESSOR for Industrial Service



Westinghouse "CMB" Air Brake Company

Handles tough assignments—designed for continuous operation at 150-lb. max. Two low-pressure, one high-pressure cylinders, forced-feed lubrication system with "metered" oil flow. Automatic—may be arranged for "start and stop" or "continuous-running—load-on-load" operation. Displacements 126 to 203 C.F.M., Motor HP 20 to 40. Catalog 9302-7; ask for it.

**Westinghouse Air Brake Co.**

Industrial Division, Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

▼ DREXITE—Identify by IEN-9640 if you write the maker ▼

## PACK HIGHER WATTAGE INTO LESS SPACE WITH OHMITE THIN RESISTORS

Compact design gives Ohmite Thin Type Resistors higher wattage per unit of space . . . providing a space-saving installation. These resistors measure only ¼ inch thick by 1 inch wide, and range in length from 1½" to six inches. They are available in five sizes, from 30 to 75 watts, in a wide range of resistance values.

Compact mounting of Ohmite Thin Type Resistors is facilitated by the integral mounting brackets, which cannot rotate or become loose. These brackets distribute heat more evenly throughout the resistor and conduct heat away quickly. Special studs on the stacking type brackets enable two or more resistors to be mounted together.

Of time-proven construction, these thin type resistors embody all the superior characteristics of other Ohmite resistors . . . strong ceramic core . . . uniform winding to prevent "hot spots" . . . protective vitreous-enamel covering.

Ohmite Thin Type Resistors—with either type of mounting bracket—are available with a bare-wire tide and an adjustable contact for securing odd resistances easily.

SINGLE-UNIT BRACKET

ADJUSTABLE

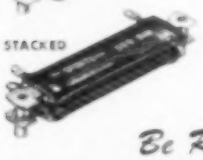
FIXED

STACKING BRACKET

ADJUSTABLE

FIXED

STACKED



*Send for descriptive Bulletin No. 138*

OHMITE MANUFACTURING CO.
4114 Flournoy St., Chicago 44, Ill.

*Be Right with*

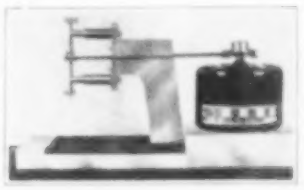
**OHMITE**

RHEOSTATS • RESISTORS • TAP SWITCHES

▼ DREXITE—Identify by IEN-9642 if you write the maker ▼

## DRILLING . . Sensitive machine, touch feed, for .0016 to .010 holes

Source: DUDLEY COHEN
114-18 W. 72nd St., New York 23, N. Y.



A rubber belt pulley is a sixteen on the spindle of this new machine and on the 1 drip, vertical-drive motor. It is so mounted with sufficient tension to hold the spindle in place in V-way bearings made of oil-impregnated bronze. The drive is positioned so the belt will single slightly upward when the drill contacts the work to offset the spindle weight and help to move it up. Feed is applied by finger-tip contact on the knob of the spindle.

Model O is the designation. Overall height is 16½ inches. Throat depth is 2½ inches. Distance from the drill point to the table is 2 in. when the spindle is up.

▼ DREXITE—Identify by IEN-9643 if you write the maker ▼

## PAINTING . . Mastic coating to spray on unglazed masonry surfaces

Source: TREMCO MFG. CO.
8703 Kinsman Road, Cleveland 4, Ohio

Normally applied by local contractors

Tremco 101 is a new mastic coating for spray, brush or trowel application to seal exposed surfaces of unglazed masonry and provide a decorative surface that requires no further finishing. The coating is about ten times the thickness of ordinary paint. It remains pliable, resilient and absorbs normal expansion and contraction in building walls. It is available in colors including natural cement, off-white, light yellow, terra-cotta, slate, dark red. It can be painted over with a good oil base paint.

▼ DREXITE—Identify by IEN-9644 if you write the maker ▼

## MIXING . . Pivoted agitator for use in steel 30 and 55 gallon drums

Source: AMERICAN PULLEY CO.
4242 Wissahickon Ave., Philadelphia 29, Pa.

American Ingraham trade names new agitator blade and pivot pin for insertion into a steel 30 or 55 gal. drum for hand or power rotation to mix the contents of a drum that has been standing for some time. The blade is shaped to lift material that has settled, to clean the drum bottom and to scrape settled material from the drum corner.

Blade section measures ⅝ by ⅝ inches. The upper end is squared to take an available hand crank or a power drive. The body outline provides flexibility around either. Pivot head is one of four positions.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10*

▼ DREXITE—Identify by IEN-9645 if you write the maker ▼

**WILLIAMS-HAGER**

flanged *Silent check* VALVES

on duty EVERYWHERE

Dependable protection against water hammer in any position . . . silent operation . . . renewable disc and seat . . . built of materials to suit your installation's needs, in standard pipe sizes from 1" to 20".

Waterworks Service. Attachment at small end of 6" by 10" increaser.

Vertical and angular positioned valves protect high pressure pumps of the Longview Fire Company.

Williams Valves serve the Hot Strip Mill descaling systems in a large Eastern Steel Mill.

THE WILLIAMS GAUGE CO.

Pump Valves . . . Water Gauges . . . Gauge Cocks . . . Steam Traps . . . Pump Governors . . . Feed Water Regulators . . . Water Columns

2906 PENNSYLVANIA AVE • PITTSBURGH 33, PA.

• *Write for Bulletin WH 100*

▼ DREXITE—Identify by IEN-9646 if you write the maker ▼

*Ask the Man with Holes in His Head!*

## . . . to cut your boring costs

What'll it get you to ask about boring? Just this — lower costs. Lower costs through savings in time and money. Because "the man with holes in their heads" provide newer, faster, lower cost methods of boring. You may need special bars and special cutters. If so, they'll be designed for you. More likely the right standard Madison cutter in the right Madison bar can give you full production economy . . . and the Madison line of boring tools is broad enough to fit nearly any boring problem. Why not let Madison — experienced specialists in boring and boring only — cut your boring costs? Ask us. A brief letter will do it. No obligation, of course. *Write for the information filled Madison Catalog.*

BETTER BORING TOOLS . . . MORE BORING EXPERIENCE

**MADISON** MANUFACTURING COMPANY

Dept. EN — Muskegon, Michigan

▼ DREXITE—Identify by IEN-9647 if you write the maker ▼

## *Now . . . more than ever . . . AMERICAN is PHILLIPS HEADquarters*

5 acres of new machines and equipment, in the modern plant at Willimantic . . . plus the Norristown plant and Chicago warehouse . . . are keeping distributors and jobbers supplied to fill your orders *right now*. And that goes for all slotted fasteners, too.

Make a note of the *new phone number* of the new main plant . . . *Willimantic, Connecticut 1-1681* . . . also Chicago — Whitehall 4-5866, and Norristown 0158. Call the number nearest you.

AMERICAN SCREW COMPANY
Plants at Willimantic, Conn. and Norristown, Pa.

**AMERICAN SCREWS**

▼ DREXITE—Identify by IEN-9648 if you write the maker ▼

Uneven Floors . . . Narrow Aisles . . . Sharp Turns . . . Heavy Loads . . . Long Hauls . . . Rough Handling . . .

there's a **Bond** Built-for-the-job **CASTER** designed especially for your service needs.

• Send for catalog K-38 illustrating and describing the complete line of Bond Industrial Truck Casters.

BOND FOUNDRY & MACHINE CO.
304 Penn St.
Manheim, Pa.

BREVITY—Identify by IEN - 9649 if you write the maker


## this Voltage Tester has ALL the features

NEW POLARITY CAP

- **No lamps**—breakage eliminated.
- **Individually Calibrated.** Positive voltage identification—110, 220, 440, 550 A. C.—125, 250, 600 D. C. on easily read, colored scale.
- **New Polarity Cap**—optional. Magnetic type. Fits both old and new Square D testers.
- **Safe.** Non-breakable fiber case withstands 10,000 volts. Lead wires have vulcanized insulation and 4" fiber grips covering insulation-piercing prongs.
- **Convenient.** Easily operated. Carry in pocket or with tools.

*Write for Voltage Tester folder, Square D Company, 6060 Rivard Street, Detroit 11, Michigan*

SQUARE D COMPANY
DETROIT MILWAUKEE LOS ANGELES


BREVITY—Identify by IEN - 9650 if you write the maker


## HANSEN QUICK-CONNECTIVE

WORKING PRESSURE TO 350 POUNDS

## STEAM COUPLINGS

Proved, new design. Designed for pressures up to 350 pounds, saturated. Easily repacked with formed graphite and asbestos packing. High pressure coupling has simple packing take-up. Slight sleeve movement connects or disconnects plug. Machined from solid brass bar stock in ¼", ½", or ¾" pipe thread sizes.

*Write for catalog*

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO


BREVITY—Identify by IEN - 9651 if you write the maker


## Famous AMPCO METALS start here!

### Detroit ROCKING Electric Furnaces deliver uniform, high-quality melts

Ampco Metals, Inc., of Milwaukee, formed the world's first ten ton Ampco metal and other copper base alloys . . . efficiency is the aim of Detroit Rocking Electric furnaces to produce high quality, controlled melts economically. Ampco castings are of superior grain structure, show fine surface texture, uniform color, and minimum low scrap loss.

**For Ferrous Melting, Too**

In ferrous melting, Detroit Electric Rocking furnaces positively control composition and quality, reduce metal shrinkage, lower scraps and machinings printable.

Electrodes cause no loss of molten bath as all source of carbon pick-up. All electric operation, ends fuel shortage worries. Capacities 10 to 4000 lbs. Consult us exhaustively.

Get the facts on how this new power, are better quality melts. Write today.

FEMA

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN


BREVITY—Identify by IEN - 9652 if you write the maker

## GAGE . . Roll type comparator for external threads, sizes to 1½ in.

Source: PRATT & WHITNEY
49 Charter Oak Blvd., West Hartford 1, Conn.

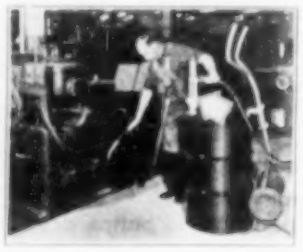
**Tri-Roll** thread comparator is a new dial-equipped gage that registers three threaded rolls on a threaded work piece to read over or under deviation for a predetermined setting to a master. Two of the rolls are stationary. The third is mounted on a preloaded arm connecting to the dial indicator. Graduations on this indicator are in .00025 in. increments plus and minus. Error in lead, angle and pitch diameter can be observed.

**Seven sizes** in the line are minimum at No. 0 to No. 3, maximum at 1¼ to 1½ inches. Thread pitch is 24 and finer on the smallest unit, 3½ and finer on the largest. Within the range of each gage, the rolls can be changed for changing work. They can be reground if this becomes necessary and can be transposed for right or left-hand threads.

BREVITY—Identify by IEN - 9653 if you write the maker

## PUMP . . Pneumatic design to transfer liquids from drums, barrels

Source: GRAY CO.
50 Grace Square, Minneapolis 13, Minn.



**Fast-Flo** is a new air-operated pump that applies in the bung of a drum or barrel to deliver liquids as required at any pumping rate to 18 gpm. The pump will maintain this rate when handling SAE-20 lubricating oil on air pressure of 150 lb. and free delivery at no head. It is indicated by the arrow.

**The assembly** includes a bung adapter, 3-ft. hose, pneumatic valve, and snap-on air-line coupler. Overall pump length is 52 in. with effective length of riser at 34¾ inches. Weight is 15 pounds. The unit fits a 2-in. bung. It will handle oils, adhesives, non-corrosive chemicals, alcohol, naphtha, paints.

BREVITY—Identify by IEN - 9654 if you write the maker

## WELDING . . Book of recommended practice for resistance welding includes test methods data

American Welding Society
33 W. 39th St., New York 18, N. Y.

**Revised Edition** of "Recommended Practices for Resistance Welding" is a 68-page book prepared by the Society's Resistance Welding Committee. List price is $1. Four sections cover spot and seam welding, projection welding, flash welding, standard methods for testing resistance welds.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*

BREVITY—Identify by IEN - 9655 if you write the maker


## Stop CORROSION in your Steam System WITH CORAVOL

**CORAVOL** is part of a complete technical service which provides special formulas of treatment for:
Boiler feed water . . . hot water supply . . . refrigerating brine . . . cooling and condenser water . . . caustic soda . . . regeneration . . . sugar control . . . Purified supply . . . steam control.

When fed in your steam system, **CORAVOL**: (1) prevents corrosion in steam and condensate lines, (2) cleans out clogging rust deposits resulting from previous corrosion. Thus **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacities of lines and the operating efficiency of valves and traps.

WRITE TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Mo. for complete FREE data about the **CORAVOL** process.

WESTERN CHEMICAL CO.
715 WASHINGTON KANSAS CITY, MO.


BREVITY—Identify by IEN - 9656 if you write the maker

## PROTECTION . . . against Wood Decay and Termites with WOLMANIZED* Lumber

Before building, remodeling or reconditioning your plant, we believe you will find this new booklet valuable. It tells you exactly what WOLMANIZED PRESSURE-TREATED LUMBER is. It explains how it protects against damage to wood caused by rot and termites. It gives you a good idea of the many applications for this remarkable cost-saving lumber—and how it saves time and money for you.

Investigations by qualified technologists prove that WOLMANIZED PRESSURE-TREATED LUMBER lasts three to five times longer than untreated wood. And, only WOLMANIZED Lumber provides all these extra advantages—clean, odorless, paintable, non-corrosive, non-leaching, glueable, and lower fire hazard.

For complete facts on WOLMANIZED LUMBER, write for free informative booklet.

*Reg. U. S. Pat. Off.

Source: AMERICAN LUMBER & TREATING COMPANY
General Offices: 1640 McCormick Bldg. • Chicago 4, Illinois
Offices in: Baltimore, Boston, Jacksonville, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Washington, D. C.

BREVITY—Identify by IEN - 9657 if you write the maker


## DOLLIES, SKIDS, TRUCKS

*Built to meet all tough requirements*

THE "HANDY"

**BARREL SKIDS**
Selected hardwood rails reinforced entire length with flat steel bars. Standard models are 16" wide, 8' to 16' long.

**● IRONBOUND DOLLIES**
The "Handy", one of a full line of dollies, has shaped frame for comfortable hand grip. Equipped with four swivel casters, 3" dia. wheels—choice of steel or rubber.

Ironbound engineers will help you with your handling problems. We design and build super structures to handle special products at lower handling costs.

● The RolTruk will "pick-up and go" with paper rolls, drums, barrels, etc. Available in several models with capacities ranging from 500 to 2000 lbs. Ask for illustrated bulletin 10RT.

Standard line of Ironbound Skids, Semi-Live Skids, Dollies and Floor Trucks is fully illustrated in Catalog GP-7. Write for a copy, today.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS


BREVITY—Identify by IEN - 9658 if you write the maker


## Move AIR Gases and Light Solids through SPIRATUBE Flexible Tubing

*Diameters to 30 inches*

SPIRATUBE . . . the new flexible tubing . . . works efficiently both ways . . . blowing . . . exhausting.

A zephyr or a gale . . . you put air where you need it with SPIRATUBE. And SPIRATUBE's neoprene rubber cushion rides with the punch of abrasive solids. It's the new conveying tube of industry.

Every advantage you want . . . bends at any point . . . no ridges inside to obstruct air passage . . . light and easy to carry . . . quick to connect . . . extra strong . . . safe . . . retracts for easy stowage.

Let's discuss your problems . . . no obligation. New Engineering Catalog available. Send for your copy today.

Box 149-K

FLEXIBLE TUBING CORPORATION
SPIRATUBE
BRANFORD, CONNECTICUT, U.S.A.

REQUEST—Identify by IEN-9659 if you write the maker

## A 2 CIRCUIT THERMOSTAT FOR A THOUSAND USES—

When two heating elements are used, high heat element is automatically cut in when thermostat calls for heat. When set temperature is reached, main contacts are automatically broken and low, or holding temperature element is cut in to function until drop in temperature again calls for heat. *Write for catalog.*

In Home and Industry EVERYTHING'S UNDER CONTROL

Robertshaw THERMOSTAT DIVISION YOUNGWOOD, PENNSYLVANIA

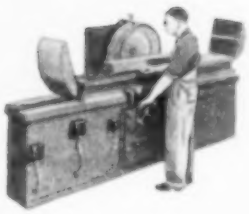
REQUEST—Identify by IEN-9660 if you write the maker

# BEST BET TO BOOST OUTPUT

**General Electric adjustable-speed drives can increase the output of your machines—make them more accurate, more versatile**

You can now buy General Electric drives precision-engineered for your machines, at mass production prices. General Electric has brought them to a new high in versatility and power to work production miracles like those shown here:

**STEPPED UP PUNCHING 968%**
A feat performed on a large punch press, hiking output from 28 to 300 parts per minute.



**INCREASED GRINDING PRODUCTION 40%**
This gain was achieved on a Buffalo company's face and knife grinder with an adjustable-speed drive.

**TO UNCOVER OPPORTUNITIES** for adjustable speed in your plant, General Electric offers: First, the assistance of specially trained sales engineers. Pick up your phone now and call your nearest G-E field office. Second, a comprehensive, carefully illustrated book on the *whole* subject of adjustable speed. Write for Bulletin GEA-5531 on your business letterhead. *Apparatus Department, Section 731-IE, General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

REQUEST—Identify by IEN-9662 if you write the maker

## CONTROL . . Magnetic amplifier builds weak signal up for practical use

Source: VICKERS ELECTRIC DIVISION
1813-17 Locust St., St. Louis 3, Mo.

**Three new designs** have been developed in the company's line of magnetic amplifiers previously described IEN-5000-50. All apply to control installations that start with a very weak signal originating from actuators such as speed, temperature, pressure, liquid level, voltage, current. The amplifier is stable and sturdy. Maintenance requirements are negligible. It functions without delay or need for any warm-up period. Output and input circuits can be isolated. The unit will respond to one signal or to the sum or difference of several, as we do.

**High Gain**, to the left in the illustration, is designed for 60 cycle control signal work. It is made in 22 styles with maximum output between ¼ and 1,200 watts.

**High Performance**, in the middle view, applies to 60 or 400 cycle power sources. The former is 26 styles and output level from milliwatts to 180 watts, the latter is 20 styles with maximum output from 20 to 585 watts.

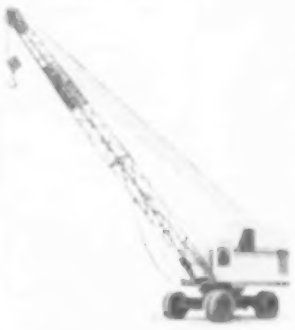
**High Power**, to the right, applies to direct current circuits. It is made in 20 styles with power from 40 to 2,000 watts.

**Bulletin 20-A**, 16 pages, presents condensed technical data on circuits, characteristics and types of the company's line.

REQUEST—Identify by IEN-9663 if you write the maker

## CRANE . . Wheel mounted design, rates 6 ton at 10 ft., can lift 10 ton

Source: WAYNE CRANE DIVISION
2511-13 Taylor St., Fort Wayne 1, Ind.



**Model 20** is a two pneumatic-tired wheel mounted mobile crane powered by a 62 hp. six-cylinder gasoline engine or by a diesel engine. Its crane, lift, boom and swing mechanisms are independently. Mounting is on a 96 in. wheelbase. Travel speed is to 15 mph. Working weight is 27,920 pounds. The crane will lift 10 tons with its outriggers extended and with an auxiliary counterweight in position at the rear.

**Operating equipment** is mounted in a weatherproof cab designed for ready access to all of the deck machinery. The rope drums measure 15 in. in diameter and operate on anti-friction bearings. The boomgate is held by adjustable conical hook rollers revolving around a 48-in. replaceable ball bearing race. The crane will take a 40-in. magnet, ¾-yd. clamshell or dragline bucket of standard construction.

*All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 30*

REQUEST—Identify by IEN-9664 if you write the maker

## New Method Gives Precise Control in Air Conditioning

**NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent**

● This new method gives complete control of temperature and relative humidity, holding constant conditions or varying them at the will of the user. Especially, it provides dry air at normal atmospheric temperatures with little or no refrigeration required.

The air is filtered and then enters a chamber where it passes thru a spray of "Hygrol" Liquid (a hygienic hygroscopic chemical that absorbs the airborne moisture and contains no salts or solids to precipitate). In the same chamber, cooling coils remove the latent heat of evaporation and also sensible heat as required.

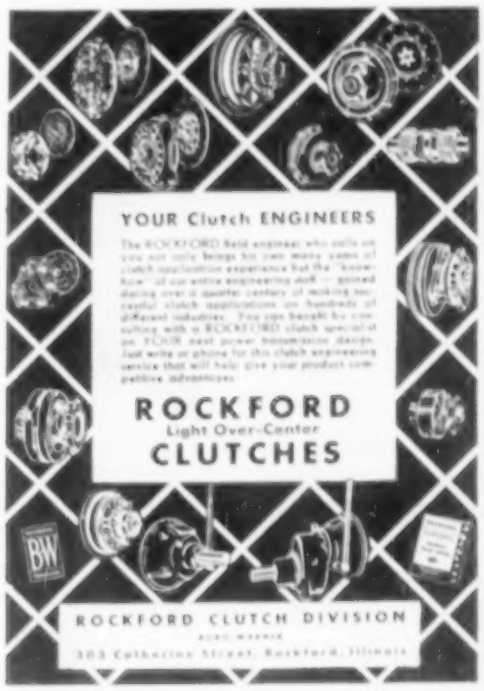
The absorbent liquid spray falls into a tank at the base. It is piped to a concentrator, removing moisture taken from the air. The reconcentrated liquid returns to the system. This process is continuous, and the apparatus operates always at full capacity.

This equipment is manufactured in units providing from 1000 to 20,000 C.F.M. of conditioned air.

Installations have been made in food and chemical process industries, in packaging hygroscopic products, for preventing condensation of moisture on metals and other products in storage, in air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. EN, 405 Lexington Ave., New York 17, N. Y.

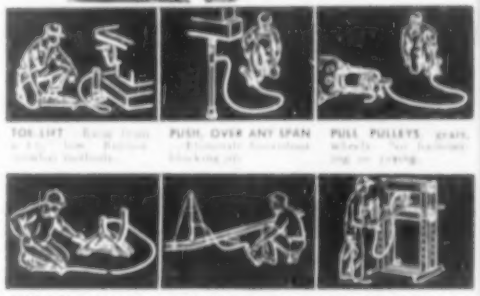
REQUEST—Identify by IEN-9665 if you write the maker




REQUEST—Identify by IEN-9666 if you write the maker

## Here's why EVERY shop needs Porta-Power

Save up to 5 man-hours moving a single machine! The "cost" of other rough jobs. No other equipment can do the work of low cost Porta-Power! Contents controlled hydraulic jacks and structural . . . 5, 10, 20, 30 and 50 ton sizes. Buy from leading supply houses. Write for free catalog. Blackhawk Mfg. Co., Dept. F-1020, Milwaukee 1, Wisconsin.

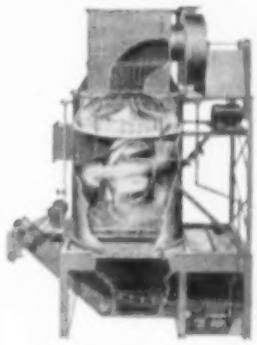



**BLACKHAWK**

REQUEST—Identify by IEN-9667 if you write the maker

## SUPPRESS DUST WITH WATER

**and reduce every particle to harmless sludge!**



*Cutaway view showing Hydro-Clone system of blading and baffling.*

Whiting Hydro-Clone—Type CV—precipitates heavy particles in the pre-cleaner . . . then removes the fine particles in the axial tube and disintegrator section directly above this tube. The resulting sludge is directed to an autoejector type tank, and all water is recirculated.

The water also removes obnoxious gases and dangerous fumes.

Hydro-Clone Equipment has no cloth screens or bags to clean, burn, or wear out . . . no spray nozzles to clog . . . no moving parts. Capacities 1,000 to 40,000 cfm. Write for Bulletin FY-162. Also available in low headroom type—Bulletin FY-163.

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

FREE New booklet of practical information on Dust Collection. Ask for Bulletin FY-142

BREFITT—Identify by IEN - 9668 if you write the maker

The house rabbits found in McGill Multirol roller bearings are worth money to you. They mean increased profit measured in terms of savings through improved anti-friction performance. This better performance is due to the consistently higher degree of precision that marks all McGill bearings. For smooth performance, low starting torque, minimum maintenance, ease of assembly, simplified lubrication, and long life in your roller bearing applications investigate the McGill M, CF and CYR Multirol bearings.

For informative literature write McGill Manufacturing Co., Inc., Bearing Division, 100 N. Lafayette St., Valparaiso, Indiana.

McGILL precision bearings

BREFITT—Identify by IEN - 9669 if you write the maker

# GET THE MOST
## for your motor money

### Get G-E Motors via Graybar

On any power drive order, to get the most for your motor dollar every time, specify G-E motors via Graybar. No matter what your requirement, Graybar can provide the motor that's exactly suited for the job. Graybar distributes the full line of G-E motors — the motors that both plant and product engineers accept without question for any installation. AC or DC, general or special purpose — dependable G-E motors deliver the power you want smoothly and steadily, for long periods without maintenance.

### All the Right Controls

To keep your G-E motors "under control", team them up with G-E starters. In addition to full protection against injurious overloads, they have other security built-in. All live parts are completely enclosed . . . contacts and other operating parts have long life ratings. Cases have ample conduit knock-outs and terminals for easy installation. With the same order from Graybar you can obtain all the right wire, conduit, and accessories for your motor installation.

### "Powerful" help on all power needs

Throughout the nation at 19 of Graybar's 100 offices, there are Power Apparatus Specialists who are highly experienced in the selection and application of motors and controls for specific tasks. The nearest Graybar Specialist is ready to help you or your electrical contractor plan the best use of all kinds of power equipment — including transformers, switchgear, circuit breakers, capacitors, and other items for unit-plant distribution. Altogether, Graybar distributes more than 100,000 electrical items. For dependable supplies . . . for help in speeding your lighting, communication, ventilation, and other electrical installations, call our nearest office. Graybar Electric Company, Inc. Executive offices: Graybar Building, New York 17, N. Y.

You get the best of everything electrical Via GraybaR

IN OVER 100 PRINCIPAL CITIES

NOW

**FREE — two booklets on Controls**

Graybar Electric Co., Inc., Graybar Building, New York 17, N. Y.

Please send me free copies of the two booklets, "Simplified Guide to the Selection and Application of Commonly Used Types of A.C. Motor Controls" and "The Biggest Control Story in Years."

Name ..... Title .....

Company .....

Address .....

City ..... Zone ..... State .....

BREFITT—Identify by IEN - 9671 if you write the maker

## TRUCK . . Engine driven dump unit rates 1,200 lb., has 10 cu. ft. bucket

Source: KOEHRING CO.
3024-28 W. Concordia Ave., Milwaukee 10, Wis.

**New design** of the Moto-Hug, motorized wheelbarrow, previously described IEN-[illegible]-48, permits the operator to ride or walk, employs a wheel-equipped steering mechanism in place of the previous lever. A direction indicator is included.

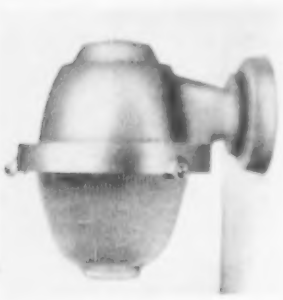
**Drive** is by a 4 hp. Wisconsin gasoline engine for speed between 1½ and 4 mph. in forward and reverse. Transmission is through a clutch and differential on the front axle. The assembly includes a spring-action, hand-operated friction brake. The truck weighs 615 lbs. with the hopper and measures about 98 by 32 by 43 inches.

**A second design** in the line replaces the hopper body with a lifting platform that measures 48 in. in length by 32 in. in width. Overall length of this truck is about 81 inches.

BREFITT—Identify by IEN - 9672 if you write the maker

## LIGHTING . . Incandescent fixture to apply over doorways in yards

Source: HOLOPHANE CO.
342 Madison Ave., Room 719, New York 17, N. Y.



**No. 840** is a new outdoor lighting fixture that encloses a 150-watt incandescent lamp in a housing made up of aluminum and a double-wall prismatic refractor having smooth inside and outside faces. The refractor is held by three stainless-steel springs against a felt gasket when the holding screws are tightened. The fixture projects 9½ in. from a wall face. It measures 9½ in. in height. Weight is 5½ pounds. Assembly is on a 3½ by 4 in. outlet box. Area covered is about 100 ft. in diameter.

BREFITT—Identify by IEN - 9673 if you write the maker

## MANAGEMENT . . Of industrial research the subject of new 14-page bibliography booklet

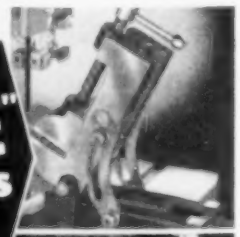
Arthur D. Little Inc.
20 Acorn Park, Cambridge 40, Mass.

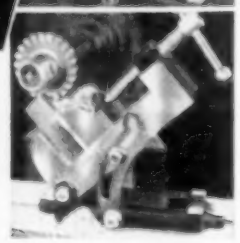
**Books, periodicals**, technical articles are reviewed in new reference booklet available on request. Title is "Management of Industrial Research". General subjects include organization, control, research program, research laboratory.

*All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREFITT—Identify by IEN - 9674 if you write the maker

# "YANKEE" ANGLE VISES





● Jig-type SET-UPS in jig time! One set-up for a series of operations, bench or machine. Position the work and set for angle. Securely held. Angle adjustment does not interfere with full capacity of jaw opening. Full 90° scale. Hardened face plates. V-block for holding round stock. Two sizes, 2" and 2¾" jaw widths. Same sizes also available with quick-release swivel base for use on bench. Economical jigs—big savings in tooling for small work.

Order from your industrial distributor. Write for Vise Folder and "Yankee" Tool Book.

STANLEY

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

BREFITT—Identify by IEN - 9675 if you write the maker

BREFITT—Identify by IEN - 9676 if you write the maker

# COMING SOON!

Outstanding presentation of equipment for production and utilization of steam, electric and mechanical power—

for YOUR benefit—

19th NATIONAL POWER SHOW
NATIONAL EXPOSITION OF POWER & MECHANICAL ENGINEERING
GRAND CENTRAL PALACE, N.Y.
NOV. 27 to DEC. 2

featuring:

- Over 300 informative displays and interesting demonstrations of latest developments for improving power production and utilization.
- Hundreds of new cost-saving ideas on design, installation, operation, maintenance, modernization, and expansion.

Discuss your problems and future plans with exhibitors' technical experts.

*Plan to Attend—You'll Be Glad You Did!*

Auspices A.S.M.E. in conjunction with Annual Meeting Management International Exposition Co.

BREFITT—Identify by IEN - 9677 if you write the maker

Doing the unusual

HAS MADE ROSS the first name in INDUSTRIAL AIR PROCESSING

Through the scientific use of controlled air, ROSS engineers have provided speedier processes and more uniformly finished products for practically all industries. In the field of industrial drying, baking, curing, heating, conditioning, no other organization has had more experience or introduced as many new developments as ROSS.

Tell us the type of product you make. Ask for literature describing ROSS apparatus for your industry.

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MANUFACTURERS OF AIR PROCESSING SYSTEMS
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BREVITY—directly by IEN-9678 if you write the maker

# Oakite's New FREE Booklet on Paint Stripping

WHAT'S THE BEST WAY TO STRIP PAINT FROM METAL PARTS TOO LARGE TO BE SOAKED IN TANKS? See Page 3

answers many questions that will lead you to better stripping procedures. You'll want to read more about:

What's the best way to strip large areas of structural metal where a steam supply is available? *See page 5.*

What's best when steam is not available? *See page 7.*

What is the cheapest way to strip metal parts in large volume? *See page 9.*

What are the best ways to prepare stripped surfaces for painting? *See page 11.*

What strippers are best for removing oil-base paints? ... Synthetic enamels, alkali-resistant plastics or resin-based paints? ... Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? *See page 12.*

**FREE** For a copy of "How to STRIP PAINT" write Oakite Products, Inc., 16A Thames Street, New York, N. Y.

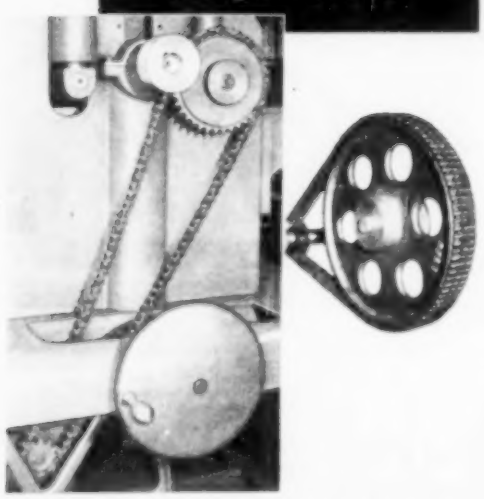
*Technical Service Representatives in Principal Cities of U. S. & Canada*

**OAKITE** SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

BREVITY—directly by IEN-9679 if you write the maker

# NO SLIP!

**As Positive As Gears On Short or Long Centers**



- Diamond Roller Chains are ideal for drives of a wide range of capacities—on short or long centers—slow or high speeds—and various speed ratios.
  - There is no slippage—speeds of driven shafts are held accurately.
  - Diamond Chain Drives do not depend on friction—high speed ratios present no problem—and bearing pressures are low.
  - Adjustable to any centers.
  - Loads are divided over many sprocket teeth.
  - Efficiency—98.4%.

For your plant and machinery drives—for conveying and materials handling equipment—high uniform quality Diamond Roller Chains give you maximum results with minimum maintenance. Write for new Catalog 709.

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Dept. 465, 402 Kentucky Ave., Indianapolis 7, Indiana
*Offices and Distributors in all principal cities.*
Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

**DIAMOND ROLLER CHAINS**

BREVITY—directly by IEN-9681 if you write the maker

## HOIST . . Hand ratchet unit for lifting and pulling rates 1,000 lb.

Source: COFFING HOIST CO.
802 Walter St., Danville, Ill.

**New size** has been added to the company's Mighty Midget puller hoist unit previously described IEN-1081-48. The new unit rates 1,000 lb. compared to the previous 500 pounds. It weighs 9½ pounds. It takes up about 1 ft. of space. List price is $27.50.

**The lever handle** can be employed as a straight lever for heavy loads or where lack of headroom requires short strokes for the ratchet action. It also can be hinged for a part of its length and the outer end locked at right angles to employ it as a crank turning through a complete circle. The ratchet mechanism is reversible for controlled movement in two directions.

BREVITY—directly by IEN-9682 if you write the maker

## INSULATING . . Silicate covering for ¾ to 72 in. pipe is standardized

Source: OWENS-ILLINOIS GLASS CO.
538 Ohio Bank Bldg., Toledo 1, Ohio

**Design minimizes required inventory**

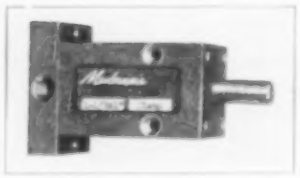
**New line** of Kaylo pipe covering is made with its outside diameter the same as that of a pipe of given size. Net result is that units of succeeding larger size will fit over the small ones so any multiple thickness of insulation can be built up. The material itself is calcium silicate. It is suited for temperatures to 1,200 deg. F.

Sizes from ¾ to 12 in. pipe are made in half sections. From 12 to 20 in. is in third sections and from 20 to 36 in. is in quarter sections. Curved block is supplied for larger pipe, the block measuring ½ to 4 in. in thickness by 18 in. in width.

BREVITY—directly by IEN-9683 if you write the maker

## CLAMP . . Air operated piston unit, spring return, 1⅛ to 3 in. bore

Source: MODERNAIR CORP.
4220-24 Hollis St., Oakland 8, Calif.



**Air Clamp** is a new assembly of living-styled piston and rod in an extended aluminum cylinder square in outside section. The cylinder is available with mounting feet at the rear, center or front. Three bore sizes are 1½, 2 and 3 inches. Standard piston stroke is 1 inch. Stroke measuring 2 in. can be specified. Line pressure is multiplied by 1, 3 and 7 to establish holding pressure in the three bore sizes in the line. Piston extension in retracted position is 1, 2 and 3 inches. Overall length is 3⅝, 5⅝, and 6⅞ in. in the three sizes.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

BREVITY—directly by IEN-9684 if you write the maker

## YOU CAN SAVE TIME, MONEY... WITH EMPIRE *Industrial* METERS

**BLEND, PROCESS, BATCH...**

***with Meter Surety!***

Want to cut production costs, speed output? Then invest in Empire meters. You'll get *exact* measurement. And you'll get it quick. You can meter practically any liquid with an Empire. They cost little, last for years and save money every day. Automatic shut-off controls are available on some models. Write for bulletin.

Dept. L
PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING CO.
Pittsburgh 8, Pa.

BREVITY—directly by IEN-9685 if you write the maker

TO ANYWHERE IN THE U.S.A.

## PROMPT SPEEDY DELIVERY OF UNIVERSAL DRILL BUSHINGS

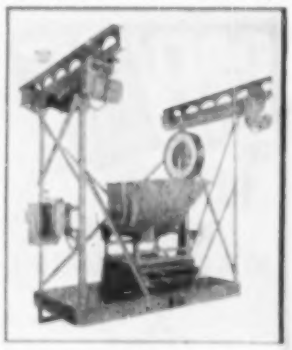
You will receive prompt speedy delivery of any size Universal Drill Bushings to any point in the United States—orders for standard size bushings will be filled and shipped within 24 hours—because our warehouses are so located and stocked as to give excellent service without delay. Order by teletype, phone, wire or letter from your nearest Universal warehouse at 1060 Broad Street, Newark, N. J.; 5055 6th Ave., Kenosha, Wisc., or Frankenmuth, Michigan.

**UNIVERSAL ENGINEERING COMPANY**
FRANKENMUTH 6, MICHIGAN

BREVITY—directly by IEN-9686 if you write the maker

*Materials gathered quickly and accurately from overhead bins*

*Easily emptied by tilting. Operator rides on car*



## BATCH SCALE CAR

Batch materials for clay, chemical, plastic, rubber and other products are gathered speedily in exact amounts with this motor-driven car. It travels on overhead rails emptying ingredients from various bins to be dumped directly in and weighed. It is emptied by tilting with a crank wheel.

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BOOKLET No. 2008 Packed with valuable data

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THE CLEVELAND CRANE & ENGINEERING CO.
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**CLEVELAND TRAMRAIL**

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**COST CUTTING FEATURES OF PINES BENDERS**

- Produces Accurate Uniform Bends without marking or denting.
- Push-Button Control — simple, easy for one man to operate.
- Highly Versatile — handles wide variety of work — sequence, tool, compound or multiple bends.
- Fast Set-Ups — tool changes in 10 minutes.
- Superior Design — top-speed alloy-steel spindle, adjustable gibs, Timken bearings, Vickers pump.

THE Pines principle of bending piping, tubing, extruded or rolled sections and moulings employs tested and proven methods that assure best results and peak production. Roll, compression, draw, and stretch bending methods are skillfully adapted to best suit your material and product needs. Hydraulic power, push-button control and automatic operation is combined to ensure high efficiency and lower production costs. Ask Pines to analyze your bending problems now. Phone Aurora 2-7600.

WRITE FOR FREE LITERATURE
Find out how the Pines Benders are designed to save time and cut costs. Literature describes and pictures various models, attachments, and methods on actual jobs.

**PINES ENGINEERING CO. Inc.**
Specialists in The Bending Component
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BREVITY—Identify by IEN-9688 if you write the maker

**MUELLER BRASS CO.** PORT HURON, MICH.

BREVITY—Identify by IEN-9689 if you write the maker

**NEW Perma-Free ACTION**

... with smooth, nonpulsating, even flow—no splashing! The working parts of Bowser hand pumps are made of noncorrosive materials to prevent rust. "Freeze" between moving parts. Carbon-filled housing permits handling most industrial liquids.

Available in 7 models with or without measuring meter. Write for folder.

Ideal for drums — tanks — vats — underground storage.

**BOWSER, INC.,** 1338 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

BREVITY—Identify by IEN-9690 if you write the maker

Rockwood WaterFOG Nozzles will outperform any other fog nozzles operating on either high or low pressures for all around fire fighting purposes.

Extinguishes fires in flammable liquids and ordinary combustibles faster and with less water.

Designed for use in industrial plants, chemical plants, oil refineries, mercantile and public buildings and municipal fire departments, etc.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories.

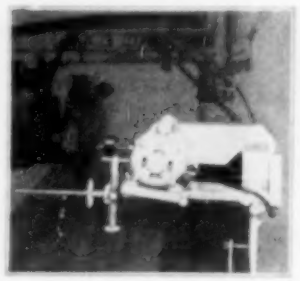
Write for bulletin C-501R.

**ROCKWOOD SPRINKLER CO.**
40 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN-9691 if you write the maker

## WOOD WORKING . . Feed attachment, motor driven, for radial sawing machine

Source: DeWALT INC.
63 Fountain Ave., Lancaster, Pa.



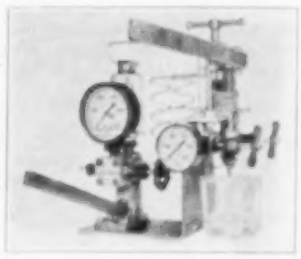
**Power rip feed** is provided on the company's radial sawing machine by application of this new motor-driven attachment. It hinges at the rear of the machine table, is brought forward and positioned on an adjustable stop for feed action or is hinged back to clear when it is not needed. Feed rate with the new assembly is maximum at 120 feet per minute.

**The attachment** assembles a motor on a hinged base with belt connection to shafts mounting feed wheels on the two sides of the machine's circular blade. One wheel feeds the work forward. The other takes it after the saw has passed through. The belt drive is adjusted for desired speed.

BREVITY—Identify by IEN-9692 if you write the maker

## TESTING . . Pressure test stand to check nozzles for diesel engines

Source: BACHARACH INDUSTRIAL INSTRUMENT CO.
7002 Bennett St., Pittsburgh 8, Pa.



**Bendix, Bosch,** Lucas and the GM-71 injector nozzles can be checked for operating pressure, spray pattern and for any leakage at nozzle or connections in this new test stand. The nozzle mounts to the right where one is shown in place in the illustration. Pressure is built up by operating the pump to the left. A gage on the pump reads pressure there. One on the nozzle reads the point of nozzle opening. The opening action also can be effected by depressing a lever at the nozzle position to note the spray pattern.

BREVITY—Identify by IEN-9693 if you write the maker

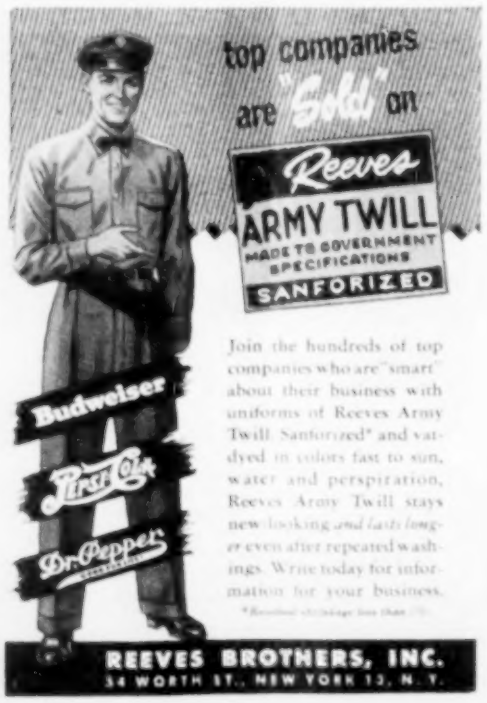
## THREADING . . Conversion table for standard tap catalog numbers by 17 makers

Greenfield Tap & Die Co.
14-18 Avis St., Greenfield, Mass.

**Corresponding** catalog numbers for 16 other manufacturers are listed in new 4-page Conversion Table against 23 of the company's standard tap catalog numbers. These are grouped into hand, machine-screw, spiral-pointed, three-fluted, pipe and miscellaneous Types. Four other makers with no catalog numbers are noted.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-9694 if you write the maker




Join the hundreds of top companies who are "smart" about their business with uniforms of Reeves Army Twill Sanforized* and vat-dyed in colors fast to sun, water and perspiration. Reeves Army Twill stays new-looking *and lasts longer* even after repeated washings. Write today for information for your business.

*Residual shrinkage less than 1%

**REEVES BROTHERS, INC.**
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**FREE . . . 8-Question CHECK CHART Tells How You Can!**

Answer "Yes" or "No" to the 8 questions this CHECK CHART asks about the material handling operation in your business.

If you answer "No" to more than 4 of these 8 simple questions — you, like so many other business men, will find that "hidden handling" costs are adding excessively to the costs of your product.

Having shown that you are paying too much for handling your material, this money-saver Check Chart also supplies the remedy.

That remedy is Automatic Electric Trucks. They move, lift and stack material with easy, electric finger-tip control. One operator handles more tonnage than three hand truckers. You may be able to cut handling costs as much as 50% to 75%.

Write for this Money-Saver Check Chart. With it, you get a free booklet, "How to Make Your Material Handling Pay Dividends." Write today!

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The Automatic Co. 109 West 87th St. Dept. T-5 Chicago 20, Illinois

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This remarkable material opens up new design possibilities, either in designing new products, or improving your present products.

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|---|---|---|
| Tough | Sawed—Sheared | Stiff or Flexible |
| Friendly to Touch | Sanded—Punched | Hard or Soft |
| Quiet and Warm | Nailed | Coarse or Fine-Grained |
| Relatively Light | Bolted—Riveted | Deep-Grained or Shallow |
| Shatterproof | Sewed | Thick 1/2" to Thin 1/32" |
| Stainproof | Screwed Into | Glossy or Dull |
| Acid Resistant | Cemented | Decorated or Plain |
| Excellent Dielectrically | Buffed—Polished | Bright or Somber Colors |

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**UNITED STATES RUBBER COMPANY**
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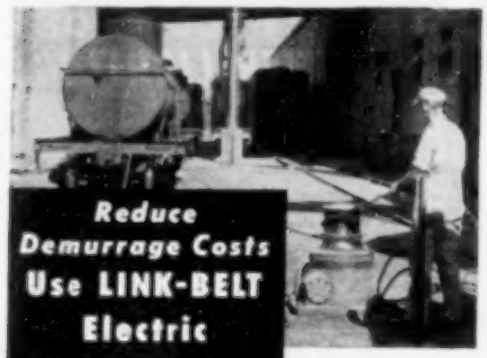
▼ BREVITY—Identify by IEN-9698 if you write the maker ▼



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This powerful compact capstan and one man quickly and safely do the job of properly spotting cars for loading and unloading, reducing demurrage and saving time.

With stationary and portable models to choose from, integral or separate motors, and rope pulls up to 10,000 lbs., there is a L-B Car Spotter to ... your needs.

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Arthur Engineering & Mfg. Co. Inc., 5602 W. Jefferson Blvd., Los Angeles 16.
Howard L. Blackman Co., 767 So. Robertson Blvd., Beverly Hills.
C. K. Catalog Studio, 17004 S. Hawthorne Beach Blvd., Huntington Beach.
Gilmore Mfg., 1646 Gough Street, San Francisco 9.
Jacobus Plastics Co., 5127 District Blvd., Los Angeles 22.
Technical Reproductions, 2400 Hamilton Ave., Hollywood 1(1).

**COLORADO**
Pikes Peak Plastic, 5 W. Cucharras St., Colorado Springs.
Plastecraft Co., 2600 N. Speer Blvd., Denver.

**CONNECTICUT**
[illegible] Mfg., Hartford 15.

**GEORGIA**
Modern Plastics, 741 Courtland St. N.E., Atlanta.

**ILLINOIS**
Arrow Plastic, 1529 N. Throop St., Chicago 22.
G. Polacheck & Son, 4100-4118 W. Grand Ave., Chicago 51.
Lenwood Fabricators Inc., 4347 W. Cortland St., Chicago 39.
Peerless Plastic Products Inc., 929 W. Lake St., Chicago 7.

**INDIANA**
General Plastics Corp., 1400 N. Washington, Marion.

**MARYLAND**
Fiber Plastics Co., 2002 Hamilton Ave., Baltimore 14.

**MASSACHUSETTS**
Koehler Mfg. Co., Marlboro.

**MICHIGAN**
Cadillac Plastic Co., 651 W. Baltimore, Detroit 2.
Detroit Macro Corp., 12740 Cloverdale Ave., Detroit 4.
Imperial Industries, 4115 Walker Ave., Walker.
Kilm Mfg. Co., 50 Chicago Grove S.W., Grand Rapids 2.
Lipson Creations, Inc., 1749 East Milwaukee, Detroit 11.
Windsor Industries Inc., 7345 E. McNichols Rd., Detroit 34.

**MINNESOTA**
Plastics, Inc., Cleveland & Ryan Rd., St. Paul 4.

**MISSOURI**
Regal Plastics Co., 710 Main St., Kansas City.

**NEW JERSEY**
Colonial Plastics, Inc., 837 Raymond Blvd., Newark 5.
Hillside Miller Co., 16 W. Talbot Ave., Maplewood.
Thermoplastics Co., 320 Jefferson St., Newark 5.
Vail Row Industries, 22 Park St., Orange.

**NEW YORK**
Rainbow Molded Products, 1824 W. Farms Road, New York 60.

**NEW YORK (Cont.)**
Blue River Plastics, 579 Canal St., New York 13.
Fistell, Inc., 1700 Elmwood Avenue, Buffalo 7.
Dual Fabricators Corp., 904 Bridge Ave., Brooklyn 11.
Dura Plastics Inc., 1 W. 24th St., New York 1.
Masterpiece Plastics Co., Inc., 93-52 150th St., Jamaica 4.
Oliver Plastics Mfg. Co., 47-50 33rd St., Long Island City 1.

**OHIO**
Eyler Plastics Co., Box 24, Cambridge.

**PENNSYLVANIA**
Lee Plastics, A and Lippincott St., Philadelphia 34.
Haines Mfg. Co., 5919 Wissinoming St., Philadelphia.

**TENNESSEE**
Plastic Line, Inc., Berkshire & Strawberry, Knoxville 15.

**TEXAS**
Gem Lite Plastic Arts Co., 715 So. Canal St., San Antonio 7.
Plastic Engineering Co., 2101 Rusk St., Houston 11.
Plastic Products of Texas, 1114 Love Field Dr., Dallas.

**WASHINGTON**
A. B. Plastics, Inc., 1817 So. 1st St., Tacoma.

**WISCONSIN**
Holland Plastics Co., 217 N. Water St., Milwaukee 2.

The United States Rubber Company at 2638 North Pulaski Road, Chicago, Illinois, has complete Engineering, Designing, and Styling Departments to assist fabricators on the technique to employ, and in the art of fabricating most efficiently with ROYALITE

▼ BREVITY—Identify by IEN-9701 if you write the maker ▼

## BATTERY CHARGING . . Rectifier and control for lead-acid batteries

Source: AUTOMATIC TRANSPORTATION CO. 109 W. 87th St., Chicago 20, Ill.

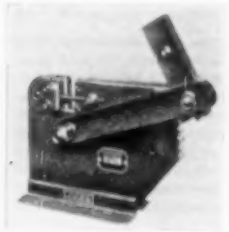
**New equipment** employs a selenium rectifier and operates from a 110-volt ac power line for automatic charging of lead-acid batteries of the 12-volt 11-plate type. The control operates through two timers for high-rate charging maximum at 9 hours and for low-rate finishing maximum at 3 hours.

**Rise** in battery voltage normally operates a relay to shift to low rate and then to shut off. If the rise does not take place the first timer will shut down at the end of nine hours. The charger shuts down in the event of power failure and resumes action at the point of stopping when power is restored.

▼ BREVITY—Identify by IEN-9702 if you write the maker ▼

## SHEARING . . Lever operated machine for bar stock, flats to 1/2 by 3 inches

Source: JULIUS BLUM & CO. 534-38 W. 22nd St., New York 11, N. Y.

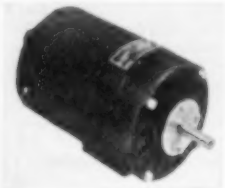


**The plate frame** in this new machine carries a gear rack segment at the front to engage gear teeth cut in the end of the operating lever that is linked to the shear knife toward the rear. Work placed across the opening near the rear will be cut when the lever is pulled down. Two sizes in the line will shear rounds to 5/8 or 1 in., squares to 5/8 or 7/8 in., flats to 1/4 by 2 1/2 in. or 1/2 by 3 inches.

▼ BREVITY—Identify by IEN-9703 if you write the maker ▼

## MOTOR . . Universal design, 1/8 to 1/4 hp., 7,500 rpm. loaded

Source: ELECTRIC MOTOR CORP. State & Marquette Sts., Racine, Wis.



**Model 700** is a new motor designed for high starting torque on 110-volt ac. or dc. The motor has a free speed of 18,000 rpm. loaded speed of 7,500 rpm. and is designed for rated load on continuous duty. It can be specified for rotation in either or both directions.

**The housing** is made of aluminum with ventilated or totally-enclosed design. Ball bearings are factory lubricated and sealed. An internal fan provides ventilation. The shaft is 3/8 in. in standard construction. Weight is about 6 1/2 pounds.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-9704 if you write the maker ▼

**TOUREK**
BALL JOINTS • PIPE PLUGS AND QUALITY SCREW MACHINE PRODUCTS

Tourek's quality Ball Joints meet exacting requirements. Simplified design, improved performance, and lower cost result. Specifying Tourek Ball Joints . . . the only recognized standard. Large stocks assure prompt delivery.

Tourek's precision commercial steel pipe plugs are accurate, high strength, and economical—resulting in the highest quality at cost which are competitive in all pipe plugs.

Quick sizes, available with "National" Pipe or Dry Seal threads are: 1/4", 3/8", 1/2", 3/4" and 1". Also available on special order in alloy steels, aluminum or brass in sizes up to 2 1/2" diameter.

Modern high speed, single and multiple automatics—together with complete secondary equipment, including grinding and boring—give 50 years experience, resulting from "The Best in Quality Screw Machine Products."

Your requirements, up to 1 3/4", are made with extreme precision, and with prompt delivery guarantee.

LITERATURE

Complete catalog data on each of Tourek products upon request. Write for your copy now. U. S. Patent with 12 offs at left in Chicago No. 6.

**TOUREK**
"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

ESTABLISHED IN 1908

▼ BREVITY—Identify by IEN-9705 if you write the maker ▼

Victor Hack Saw Blades are precision made from start to finish. Take toothing. Victor Blade Teeth are always perfectly uniform with no uneven teeth. That's because they re cut by a special machine using scores of *individually* ground toothing tools that are always accurately set. No other manufacturer cuts teeth this way.

There's a Victor Distributor near you, ready to fill your needs promptly. He's also ready to give you ABSOLUTELY FREE copies of the Victor Wall Chart and the Victor Metal Cutting Book. Both are jammed with valuable information. Get yours today.

With *Victor Steelrite Metal Marking Crayons*, you can mark hot, cold, damp or grimy metal *easily*. Withstands pickling and will not affect enamel application.

VICTOR SAW WORKS, INC. Middletown, N. Y., U.S.A.

MAKERS OF HAND & POWER HACK SAW BLADES, FRAMES & BAND SAW BLADES

▼ BREVITY—Identify by IEN-9706 if you write the maker ▼

## BRADLEYS HELP MAKE THE PLANT..... A GOOD PLACE TO WORK

Adequate facilities for washing are now considered important by managements. Such facilities include sanitary Bradley Washfountains as pictured above.

*Bradleys Save Water and Installation Cost*

One hot and one cold water supply and one drain are the only connections required for a Bradley that serves up to 10 workers simultaneously.

There are no faucets to touch, the spray of water being supplied by the central spraybead. Other advantages are explained in our Catalog D-713 . . . Why not write for a copy now . . . BRADLEY WASHFOUNTAIN CO., 2219 W. Michigan St., Milwaukee 1, Wisconsin.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers

Write for Illustrated Catalog D-713

▼ BREVITY—Identify by IEN-9707 if you write the maker ▼

EVERYTHING *for safety, power and convenience!*

C/R's NEW JAW-HEAD *Rawhide* HAMMER

Protects fine finishes and delicate machine parts. Delivers powerful controlled blows for long periods. To change tightly coiled Rawhide faces, simply loosen nut, replace faces, tighten and the hammer is ready for use. Faces are made of tough, resilient water buffalo hide, most durable of all "soft" striking surfaces. Safety-Flare grip handles are easy to hold—prevent slipping. For *everything* you need in a "soft" hammer, use the new C/R Jaw-Head *Rawhide* hammer.

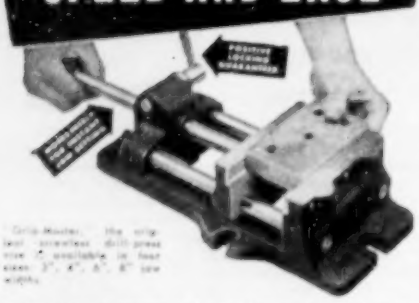
● Other C/R striking tools: *Rawhide Mallets, Rawhide Mauls, Solid Head Rawhide Hammers*

Available from leading industrial suppliers.

CHICAGO *Rawhide* MFG. CO.
1293 Elston Ave. Chicago 22, Illinois

BREVITY—Identify by IEN-9708 if you write the maker

Grip-Master
GRIPS WITH
SPEED AND EASE

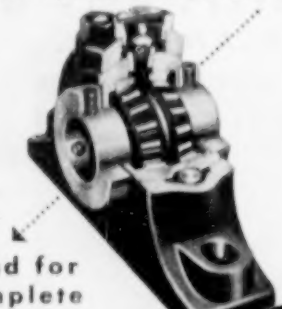



Grip-Master—the grip lever "speedless" drill-press vise—is available in four sizes: 3", 4", 5", 6" jaw widths.

● The instantaneous and effortless setting, and guaranteed positive locking of the amazing "Grip-Master" Screwless Vise add up to new savings on hundreds of drill-press and production line operations. "Grip-Master" also makes an ideal base-structure for jigs and fixtures. Hammer blows will not budge its tenacious grip obtained by an effortless press on the locking-lever. Built-in parallels level work instantly. Write today for full information and prices on the "Grip-Master" line, or ask your Dealer for a demonstration.

NATIONAL MACHINE TOOL COMPANY
DEPT. 170-K RACINE, WISCONSIN

BREVITY—Identify by IEN-9709 if you write the maker



Send for Complete data

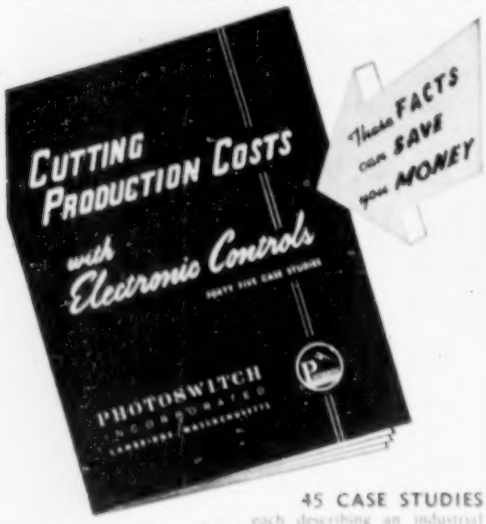
DODGE-TIMKEN

America's champion power saver—the famous Dodge-Timken Bearing. Quality proved by use on millions of industry's toughest jobs. Delivered from distributors' stocks in 4 basic types. Sizes from 1-3/16" to 8" available from stock. Completely assembled, factory tested, pre-lubricated, ready to mount on the shaft for 30,000 hours of uninterrupted service. Write for bulletin.

DODGE MANUFACTURING CORPORATION
600 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

BREVITY—Identify by IEN-9710 if you write the maker




45 CASE STUDIES

each describing an industrial control problem which has been solved through the use of electronics. Not a catalog . . . it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today.

PHOTOSWITCH INCORPORATED
75 Broadway, Cambridge 42, Massachusetts

## For Your Special Information

ALL MAKERS ARE LISTED IEN S-33

**We copy** some adjectives and phrases employed by users of Thomas' Register who employ the information it contains to find the makers of products manufactured in the U. S. A.

**"Indispensable**, of inestimable value, essential, in daily use, could not spare it, our most used book, particularly valuable, consider it a necessity, has no counterpart, vital source of information, would be lost without it, reliable and complete, better than any other."

**All this and more** is said by men in industry who have invested $15 for the books that list all makers of all products manufactured in the United States. Next edition is due in January 1951. Your reservation can be accepted now if you want to make certain of your copy.

PREMIUM STEEL IEN S-34

**United States Steel** reports, "Stories have reached us that certain individuals, purporting to be representatives of ours, have stated our willingness to sell steel at a premium to certain customers, or otherwise to engage in grey market transactions in these days of heavy demand. We deny categorically that these individuals have any authority to speak for the Corporation. Our policy continues to be one of selling steel only directly to bona fida customers at regular published prices. We will decline to make further sales to any purchaser who resells in the grey market steel bought from us."

SELLING IEN S-35

**We call your attention** to a new service that has been set up on a national basis by Commerce and Industry Association of New York, 233 Broadway, New York 7. This service undertakes to assist manufacturers to find suitable sales agents and to assist agents in making business contacts with manufacturers. We quote from a letter written by Henry K. Astwood, manager of the Industrial Development Bureau:

"**We supply** contact with New York City sales agents without charge for out-of-town concerns looking for New York representatives. If these concerns are looking for distribution in areas outside of New York we require them to become non-resident members of the Association at a minimum fee of $250. We then supply background information and contacts with sales agents interested in their product. Amount of the fee above minimum depends on the sales areas to be covered."

Top Management:
YOUR BOOST
IS NEEDED MOST

BREVITY—Identify by IEN-9711 if you write the maker

NP PRE-ENGINEERED Pneumatic
DOOR OPERATORS

• Speed material handling
• Isolate dust and fumes
• Isolate fire hazards
• Reduce cost of air conditioning and heat

Powered by the air engine that operates the car doors of the world's subways

Write for bulletin DC-102

NATIONAL PNEUMATIC CO., INC.
Boston • Graybar Bldg., New York • Chicago

BREVITY—Identify by IEN-9712 if you write the maker

STEP UP PRODUCTION WITH BETTER LIGHTING

Appleton "Goodrich" Separable Standard Dome. Easy to install, service.

APPLETON
Lighting Equipment

Look to Appleton Lighting Equipment for maximum lighting efficiency at minimum installation, service and operating expense, whatever the illuminating requirement—whether indoors or out.

Now including the famous line of lighting fixtures formerly manufactured by the Goodrich Electric Company, Appleton Lighting Equipment is your united and convenient source of supply and information for virtually any industrial lighting need. Complete in every phase, the Appleton line is expertly engineered and machined—precision manufactured, with the highest quality materials.

*An Appleton Catalog will be mailed you upon request. Make it your time-saving guide to the purchase of all lighting and electrical equipment.*

Sold Through Electrical Wholesalers

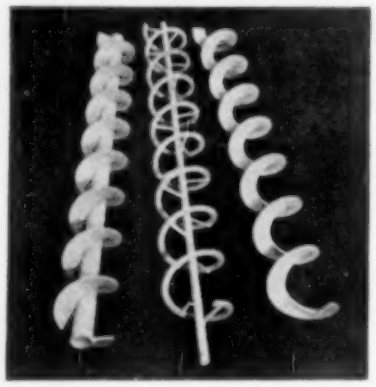
APPLETON ELECTRIC COMPANY
2716 Wellington Ave., Chicago 13, Ill.

Branch Offices and Resident Representatives in all principal markets

APPLETON
CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES
EXPLOSION-PROOF FITTINGS • RESILITES

BREVITY—Identify by IEN-9713 if you write the maker

WORMS AND SPIRALS
FOR ALL TYPE
SCREW CONVEYORS



IMMEDIATE DELIVERY
PRICES ON APPLICATION

JAMES EAGEN & SONS
WEST WYOMING, PA.

BREVITY—Identify by IEN-9714 if you write the maker

WHY GUESS THE TEMPERATURE
. . . when you see can it!

Accurate Temperature at a Glance with the Simplified PYRO OPTICAL PYROMETER

Any operator can quickly determine temperatures on minute spots, fast moving objects and smallest streams. Completely self-contained. No calibration charts or accessories needed. An accurate, direct reading Pyrometer that pays for itself by helping prevent spoilage. Weighs 2 lbs. Available in 3 temperature ranges. (400° F to 1500° F). Ask for free Catalogue 2200.

8 Instruments in One
The NEW Pyro Pyrometer handles —

all surface temperature measuring jobs. Has 8 types of thermocouples; all interchangeable in seconds with no recalibration or adjustment. Automatic cold end compensation. Shock, moisture and dust proof. Accurate, big 4½" indicator. Available in 3 temperature ranges. Ask for FREE Catalogue 2200.

THE PYROMETER INSTRUMENT COMPANY
New Plant and Laboratory
Bergenfield 21, New Jersey

Manufacturers of Pyro Optical, Radiation Immersion and Surface Pyrometers for over 25 years.

▼ BRIEFIT—Identify by IEN-9715 if you write the maker ▼

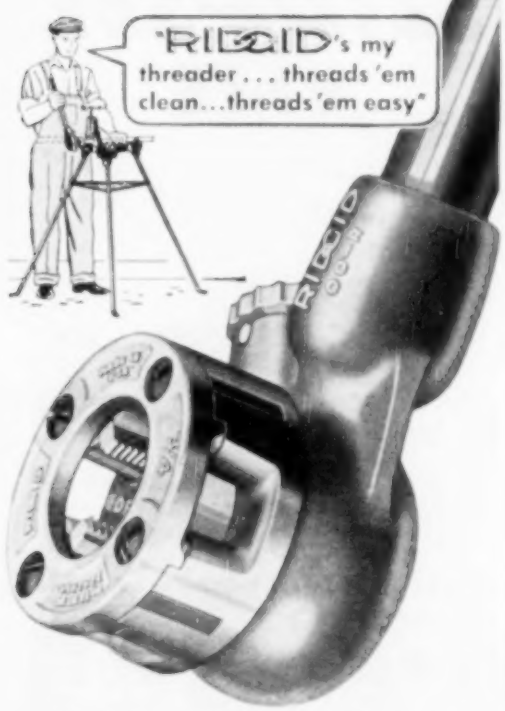
**REDUCE PRODUCTION COSTS**—F.O.S. Tape is handy, versatile, inexpensive. Simplifies production in *many* ways . . . Stays put—but can be removed quickly without requiring "cleanup." Let SEAMLESS analysts show you how to save time and money with F.O.S. No obligation! . . . *Write today for samples and prices.*

*Finest Quality Since 1877*

INDUSTRIAL TAPE DIVISION
**THE SEAMLESS RUBBER COMPANY**
NEW HAVEN 2, CONN., U. S. A.

▼ BRIEFIT—Identify by IEN-9716 if you write the maker ▼

# SMALL PIPE *Threaded* IN A JIFFY




## Quick, perfect threads on 1/8" to 2" pipe with RIDGID Nos. 00R, 111R, 12R

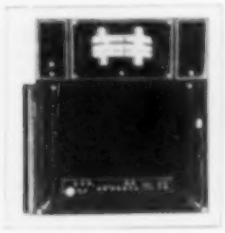
● You get ready in a hurry with these light, strong ratchet drop-head dies—just snap in the size die head you want and you're all set for threading. Die heads can't fall out—no special dies needed for close-to-wall work. Precision-cut tool steel dies for smooth perfect threads. Ask your Supply House for work-saver RIDGIDs No. 00R, ¼" to 1"; No. 111R, ⅛" to 1¼"; No. 12R, ⅛" to 2."

**RIDGID**
**WORK-SAVER PIPE TOOLS**
THE RIDGE TOOL CO. • ELYRIA, OHIO

▼ BRIEFIT—Identify by IEN-9718 if you write the maker ▼

## CONTROL . . Cabinet assembly for company's electronic instruments

Source: WHEELCO INSTRUMENTS CO.
845-49 W. Harrison St., Chicago 7, Ill.



**Cabinet Series** designates new assembly of the company's previously developed line of electronic instruments for measurement and control of variables such as temperature, pressure, speed, flow, static strain, voltage, current, light density. The cabinet provides a dust-tight, tamper-proof enclosure for installation of auxiliary equipment.

**The instrument** operates with any type of primary element producing an electrical impulse. Two-page Bulletin CAB-1 sketches representative assemblies, includes data and list prices on the instruments and auxiliary equipment.

▼ BRIEFIT—Identify by IEN-9719 if you write the maker ▼

## PIPE . . Extruded rigid plastic to handle air, gases, liquids, vapors

Source: CARLON PRODUCTS CORP.
10229-233 Meech Ave., Cleveland 5, Ohio

**Resists impact moderate pressure**

**Carlon L** is a new co-polymer base extruded rigid pipe in sizes from ½ to 6 in. for plant use. It is made in 20-ft. straight lengths, weighs .090 to 2.330 lb. per foot. Smallest ½ in. size measures .50 in. id., .60 in. od. Largest 6 in. size measures 5.76 in. by 6.625 inches. Threaded adapters are available for connection into existing metal pipe lines.

**The pipe will not rot,** or corrode. It will not form a galvanic couple with metal. It is assembled with a line of standard plastic fittings and sleeve-type connectors. The plastic is resistant to attack by most acids and alkalis. Tensile strength is 5,100 lb. and flexural strength is about 9,000 lb. per square inch. Burst pressure of 2½-in. pipe is about 900 lb. per sq. in.

▼ BRIEFIT—Identify by IEN-9720 if you write the maker ▼

## LIGHTING . . Incandescent fixture for application on bench or machine

Source: STEBER MFG. CO.
2702 Roosevelt Road, Broadview, Ill.

**Tools, dies** and manufacturing rights to the bench and machine fixtures, previously made by Detroit Industrial Products Co., have been purchased by the company and it now is in production on its new Sturdifex line. This line includes designs for heavy-duty and general-purpose uses. The utility design shown in the illustration is representative. Available types, sizes and capacities are covered in catalog 126-50.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ BRIEFIT—Identify by IEN-9721 if you write the maker ▼

▼ BRIEFIT—Identify by IEN-9722 if you write the maker ▼

# *Free* NEW G-E MAGNET WIRE DATA BOOK

*Now for the first time in one complete manual*

**FORMEX® Magnet Wires • DELTABESTON® Magnet Wires**

For jobs involving specifications and uses of magnet wire, you need this new General Electric magnet wire manual.

Packed with helpful, hard-to-get information, this 34-page book clearly and concisely covers all types of General Electric magnet wire—G-E Formex for Class A applications, temperatures up to 105 C, and G-E Deltabeston, both for Class B applications, temperatures up to 125 C, and for Class H applications, temperatures up to 180 C.

***Here are just a few of the subjects covered by the G-E magnet wire manual:***

- Properties of Formex and Deltabeston magnet wires
- Tables of types and sizes of stock magnet wires
- Application procedures
- Information on special glass and silicone-impregnated insulations
- Tables covering electrical specifications, dimensions, weight and other pertinent specification data

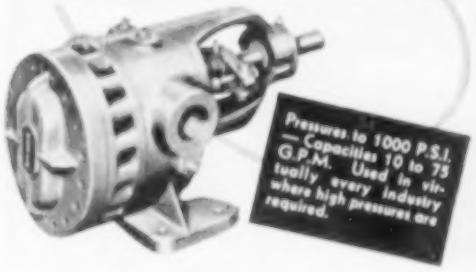
To get your copy of this fact-filled reference manual on General Electric magnet wires, write to Section W14-1042, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

**GENERAL ELECTRIC**

▼ BRIEFIT—Identify by IEN-9723 if you write the maker ▼

▼ BRIEFIT—Identify by IEN-9724 if you write the maker ▼

## WHEN THE HIGH PRESSURE IS ON... RELY ON ROPER SERIES H PUMPS




Pumps built especially to develop pressures up to 1000 p.s.i. High volumetric efficiency provided by equal size spur gears operating in axial hydraulic balance . . . roller bearings and bronze wear plates reduce friction under heavy load conditions . . . splined drive shaft absorbs thrust loads. Most models can be direct connected, chain, belt, or gear driven. Specify Roper for your high pressure job.

Geo. D. Roper Corp.
210 Blackhawk Park Ave.
ROCKFORD, ILLINOIS

**ROPER** *Rotary Pumps*

BREVITY—Identify by IEN-9725 if you write the maker

BREVITY—Identify by IEN-9726 if you write the maker

Wherever you use copper tubing, make connections quickly and dependably with Dresser "Cope-Tube" Fittings. Resilient gaskets absorb vibration and keep the connection permanently tight.

Connections can be made in a few seconds. No exact tube cutting, no straightening, no flaring, no soldering. Just stab tube ends into fitting and tighten end nuts with a wrench.

Dresser "Cope-Tube" Fittings are ideal for tubing connections on all types of equipment, and are widely used on jet pump hookups. "Armoweld*" gaskets offer further protection against corrosive line contents. Couplings, ells, tees, etc.—all sizes. Write for details.

*Trade Mark of Dresser Manufacturing Division.

**DRESSER "COPR-TUBE" FITTINGS**

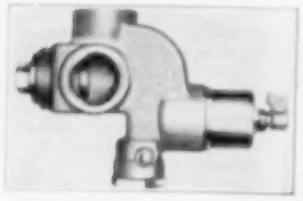
Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa. (One of the Dresser Industries) In Canada: Dresser Mfg. Co., Ltd., 629 Adelaide St., W., Toronto, Ont. Sales Offices: New York, Chicago, Houston, San Francisco.

BREVITY—Identify by IEN-9727 if you write the maker

BREVITY—Identify by IEN-9728 if you write the maker

## HEATING . . Thermostatic valve delivers water at desired temperature

Source: SYMMONS ENGINEERING CO.
789-92 Tremont St., Boston 18, Mass.



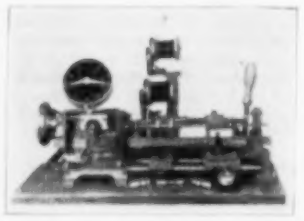
**Hot and cold water** enter opposite sides of this new valve, or front and back as the unit is shown in the illustration. They meet in the body in contact with a liquid-filled copper-tube element containing 72 running inches of the tube. It connects to a solid-fill bellows mounted out of contact with the water in a protected chamber. The bellows controls throttling action on the hot water to provide controlled-temperature outlet. This outlet is shown at the top of the illustration. On the right-hand face is an adjustment to set the temperature in a 60-deg. range.

**Minimum range** is 70 to 130 deg. F. Maximum is 140 to 200 deg. F. The standard range is 90 to 150 deg. F. The valve will handle about 70 gpm. at 60 pounds. It measures 5¼ in. between the two inlet faces, 10½ in. in width as illustrated and 6⅝ in. in height. Connections are for 1½ in. pipe. Installation requires the use of check valves on both the hot and cold-water supply lines. Tempering Controller Type T-70 is designation.

BREVITY—Identify by IEN-9729 if you write the maker

## WINDING . . Motor driven machine for wire coils to 8 inches in length

Source: GEO. STEVENS MFG. CO.
6020-24 N. Rogers Ave., Chicago 30, Ill.



**Model 125** is new design of the company's coil-winding machine to handle wire from 20 to 44 gage. The machine will wind single coils to 8 in. in length or progressive universal coils to 4 in. in length and to 3 in. in diameter. It is equipped with a ¼ hp. motor, foot-operated speed control, double speed carrier, tension adjustment, cam-operated travel motion to lay the wire, ball-bearing tailstock and a winding counter. The cam, gears and idler forming the winding pattern are enclosed under a clear plastic window in the headstock. Base length is 22 inches.

BREVITY—Identify by IEN-9730 if you write the maker

## MANAGEMENT . . . Labor in politics the title of new booklet that reviews the record

Chamber of Commerce of the United States
1615 H St., Washington 6, D. C.

**"Labor in Politics"**, new 40-page booklet, presents the historical facts from 1820 up to the present on organized labor's interest and activity in politics. List price is 50 cents. Approximately half the book is a tabulation of the stands taken by labor organizations on important issues.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

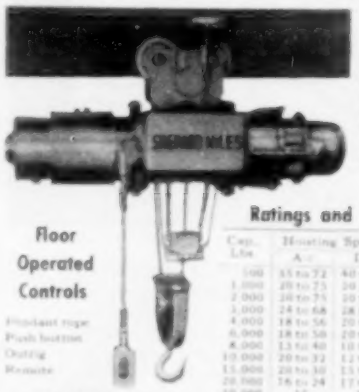
BREVITY—Identify by IEN-9731 if you write the maker

BREVITY—Identify by IEN-9732 if you write the maker

## FOR WIDEST RANGE OF HOIST TYPES, CAPACITIES & CONTROLS

*With Outstanding Wear-Eliminating Features*

Single or multiple-speed control with positive load brake. "Balanced drive" distributes all stresses evenly. Oil bath lubrication assures long, trouble-free operation. Sealed housing keeps out abrasive dust and moisture. Anti-friction Bearings




**Types**

Long suspension
Hook suspension
Bow type
Push trolley
Geared trolley
Motor-driven trolley

**Floor Operated Controls**

Pendant rope
Push button
Outrig
Remote

**Ratings and Capacities**

| Cap. Lbs. | Hoisting Speeds A.C. | Hoisting Speeds D.C. | Lift, Feet |
|---|---|---|---|
| 500 | 55 to 72 | 40 to 68 | Up to 110 |
| 1,000 | 20 to 75 | 20 to 75 | Up to 180 |
| 2,000 | 20 to 75 | 20 to 33 | Up to 180 |
| 3,000 | 24 to 68 | 28 to 55 | Up to 160 |
| 4,000 | 18 to 56 | 20 to 45 | Up to 146 |
| 6,000 | 18 to 50 | 20 to 38 | Up to 128 |
| 8,000 | 13 to 40 | 10 to 29 | Up to 161 |
| 10,000 | 20 to 32 | 12 to 23 | Up to 158 |
| 15,000 | 20 to 30 | 15 to 22 | Up to 87 |
| 20,000 | 16 to 24 | 17 to 17 | Up to 87 |
| 30,000 | 15 | 15 | Up to 41 |
| 40,000 | 10 | 10 | Up to 41 |

*Write for free literature*

**Shepard Niles CRANE & HOIST CORPORATION**

456 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

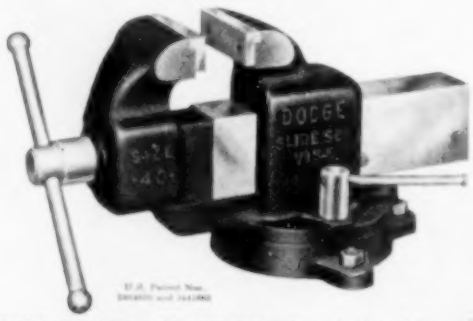
BREVITY—Identify by IEN-9733 if you write the maker

**NEW!**

**DODGE**

# SLIDE-SET VISE

SLIDES IN "NEUTRAL"!
INSTANT ACTION!
GRIPS CONVENTIONALLY!
FULL POWER!




U.S. Patent Nos. [illegible] and [illegible]

OPENS OR CLOSES TO ANY POSITION IN ONE SECOND!

**RELEASE**—Turning handle counter-clockwise puts vise in "neutral" for fast slide action.

**CLOSE**—a push closes vise to work for a real power. No time-wasting handle spinning.

**LOCK**—Turning handle clockwise applies full power. Grips conventionally. Fast. Rugged. Revolutionary!

Built on a new principle, with patented fast slide action, the new Dodge Slide-Set Vise pays dividends in more production, time saved and increased worker efficiency. Jaw slides in "neutral" to any position. No tedious "spinning" in and out. As soon as work is engaged vise operates in conventional manner. A demon for speed, a brute for strength—the Dodge Slide-Set weighs 58 pounds. No-Pinch handle protects against blood blisters! Built in 4-inch size—swivel or stationary base.

Make a comparison test now. Install a Slide-Set and check results in greater efficiency and production. Ask your Industrial Distributor for a demonstration. Write Dodge for Free Bulletin.

DODGE MANUFACTURING CORPORATION, 600 Union Street, Mishawaka, Indiana

**DODGE**

*of Mishawaka, Ind.*

CALL A TRANSMISSIONEER. He can tell you about the new Slide-Set Vise as well as give you news of the latest Dodge developments in power transmissions machinery.

FIRST IN POWER TRANSMISSION MACHINERY

BREVITY—Identify by IEN - 9735 if you write the maker

# BUILDING DOLLARS GO FARTHER

Industrial users find that prefabricated Armco Steelox Buildings save money 3 important ways.

1. Quick, easy erection is assured with a small unskilled crew. The unique Steelox Section provides both structural support and finished surface.
2. You get trouble-free service at low cost. Steelox Buildings are fire-resistant and lightning-safe when properly grounded. The patented joint can't open up or pull apart. Your building remains rigid and weathertight year after year.
3. Ideal for permanent or temporary sites. Should conditions change your Steelox Building can easily be extended, doors and windows rearranged, or it can be moved to a new location without loss of material.

WRITE FOR THE COMPLETE MONEY-SAVING STORY

ARMCO DRAINAGE & METAL PRODUCTS, INC.
1920 Curtis Street, Middletown, Ohio

BREVITY—Identify by IEN - 9736 if you write the maker

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Test AGEPROOF and prove to yourself it can't be beat for

pen or pencil
erasing
redrawing
transparency
reproduction
permanence

Ageproof VELLUM

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EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee. *Dealers in All Principal Cities.*

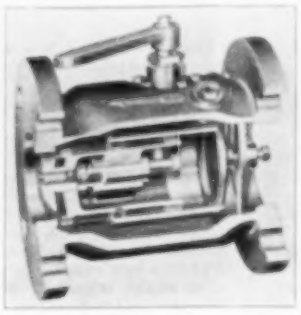
FREE SAMPLES
Test AGEPROOF VELLUM! Draw on it with pen and pencil, erase, redraw, make test prints. Write on your company letterhead for samples, sent free.

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

BREVITY—Identify by IEN - 9738 if you write the maker

## VALVE . . Double piston design controls delivery from pressure line

Source: GRANBERG CORP.
1300 67th St., Oakland 8, Calif.



**This new valve** is designed to control delivery from the end of a pressure line in filling service as in handling oil into tank cars. It is characterized by the small pressure required on the operating lever and on the adjustable provision to control speed of closing and thus prevent slamming and line shock. The valve is available in four sizes between 2 and 4 in. to handle 100 to 500 gpm. Each is equipped with standard 125-lb. flanges.

**Fluid enters** from the right, as the valve is shown in the illustration. It fills the space surrounding a stationary sleeve and the main piston extending to the valve seat at the left from inside the sleeve. A small port in the sleeve is controlled in size by an adjustment on the outside of the valve to admit fluid into the sleeve to hold the piston in closed position by line pressure.

**The operating lever** connects through the sleeve to retract a small piston inside the main one, on initial lever movement in opening direction. This opens a small port in the piston on the delivery side of the valve, releases pressure on the main piston and permits further lever movement to retract it to full-open position. Reversing the lever movement first closes the small piston to rebuild pressure in the sleeve and start the controlled closing action which is completed by final mechanical locking movement.

BREVITY—Identify by IEN - 9739 if you write the maker

## PAINTING . . Spray gun machine paints work positioned in mask frames

Source: SEPANSKI & ASSOCIATES
407-11 Henry Ave. S. E., Grand Rapids 6, Mich.

**Two spray guns** are mounted with universal adjustments on the piston of a horizontal pneumatic cylinder in this new Spray Mask painting machine. The cylinder is controlled by timing equipment to traverse to the left and back to the right beneath an opening in the housing on the top toward the left-hand side. The guns are faced toward this opening which takes a mask with suitable openings for given work. The operator places and removes the work as the guns are traversed through a complete cycle.

**Three machine sizes** provide 12, 18 and 24 in. length of the mask opening. Maximum width is 8 in. with 6 in. the average width with the mask in place. Overall machine dimensions are 44, 56 and 68 in. by 18 in. in width and 42 in. in height.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 9740 if you write the maker

A NEWS ADVERTISEMENT BY HOUGHTON LABORATORIES, INC.

## PROTECTIVE COATINGS . . . Hysol Coatings inert to practically all corrosive solutions

Source: HOUGHTON LABORATORIES, INC.
322 Bush Street, Olean, N. Y.

**Recently made** commercially available is a series of new abrasion-resistant coatings which will give long corrosion protection to all metal surfaces — regardless of the cause of corrosion.

**With extensive laboratory** and pilot plant facilities, Houghton Laboratories compounds a correct coating for each specific corrosive application. Some combination of coatings from the Hysol 4000 series will protect under practically any condition.

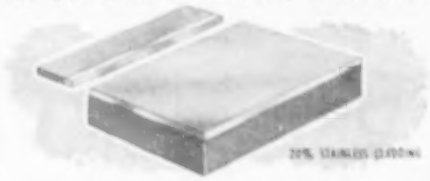
**In the application** illustrated two Hysol-protected mixing tanks have been in continuous 24-hour a day service for over 11 months with no sign of damage to the tanks or break-down of the coatings. The tanks process solutions of 3.3% Ferrous Sulphate and 8.6% Caloger. Hysol service in this case is particularly outstanding, since coating previously used protected the tanks for only 3 months.

**Much laboratory data** which indicate how Hysol Coatings perform under specific conditions are available. Houghton Laboratories will prepare for your own testing a sample designed to give maximum protection under your specific corrosive application. *Write for technical data or sample.*

BREVITY—Identify by IEN - 9741 if you write the maker

# NOW! REDUCE MATERIAL COST

*BUT GET PERFECT STAINLESS PROTECTION*




with PERMACLAD
STAINLESS CLAD STEEL

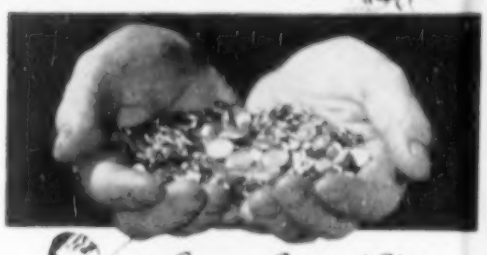
PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel. It permits you to improve your products, provide corrosion resistance and cut forming costs. You can cold form PERMACLAD with ease — subject it to deeper draws without intermediate annealing — actually form it into products impossible with many other materials.

Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-4.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

BREVITY—Identify by IEN - 9742 if you write the maker

*"Button, Button, Who's Got the Button?"*



*Contact General Plate*
**for Laminated Buttons, Large or Small**

Whether it's a handful or a carload, contact General Plate for your electrical contact button requirements. General Plate Laminated Button give you all the advantages of solid silver performance at a fraction of the cost of solid silver. They are especially suited for brazing and spot welding, thereby cutting installation costs. General Plate Laminated contact buttons are available with flat or dome tops . . . in raw stock for your own fabrication or as finished fabricated contact assemblies ready for installation into your products. Write, specifying your problems for cost-cutting recommendations.

OTHER GENERAL PLATE PRODUCTS INCLUDE —
Truflex Thermostat Metals . . . Precious to base metal laminations . . . Base metal laminations . . . Abraplate (copper and aluminum) . . . Silver solders . . . Laminated contacts, buttons, rivets . . . Platinum fabrication-refining . . . Age hardening Manganese Alloy 710.

GENERAL PLATE
*Division of Metals & Controls Corporation*
710 FOREST STREET, ATTLEBORO, MASS.

BREVITY—Identify by IEN - 9743 if you write the maker

# Amazing New 3/4 Ton HOIST and PULLER!

BLACKBURN *Jiffy Lift*

30 DAY FREE TRIAL

*Hundreds of Uses*

Hoist weighs only 12 lbs., yet has ¾ ton capacity. Single control for up and down. Quick action, ratchet type. Factory tested. $42.95, F.O.B. St. Louis. Try it a month FREE!

*MAIL COUPON TODAY*

JASPER BLACKBURN PRODUCTS CORP.
First, Madison & Clinton Sts., St. Louis 8, Mo.
☐ Send us full information about "Jiffy Lift".
☐ Send us one "Jiffy Lift" for 30 Day FREE TRIAL.
Your Name and Title .....
Firm .....
Address .....
City and State ..... IEN

BREVITY—Identify by IEN-9744 if you write the maker

# RE-NU TOP
## STEEL-BOUND SKID PLATFORMS

BUILT TO LAST A LIFETIME

500 LB. LOAD UP TO 10 TONS

Designed to fit your loads and equipment. Plain bolted construction for use with hand 10 trucks or bolted and welded under frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

SECTIONAL BINS — ROLLAWAY SKIDS — SKID BOXES

THE LANHAM COMPANY

1405 S. 12th Street, Louisville, Kentucky

BREVITY—Identify by IEN-9745 if you write the maker

# DILLON
## PRECISION DYNAMOMETER
### INDICATE TENSION DIRECT IN POUNDS!

**An ideal laboratory or field instrument for indicating tension or stress in cable, rope, castings, assemblies, many other mechanical setups. Thousands in use by leading plants. Fits into "tight" spots easily. Not injured by accidental overload. Has safety glass cover and maximum hand. PRICED LOW. Immediate shipment.**

*WRITE FOR INTERESTING BULLETINS*

W. C. DILLON & CO., Inc. 5410-K W. Harrison St. CHICAGO 44, ILL., U.S.A.

BREVITY—Identify by IEN-9746 if you write the maker

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Get your free copy right away. Laughlin's #145 Catalog-Data book is a mine of practical information on wire rope and chain fittings . . . Complete specifications, helpful tables for engineering designers, riggers, buyers.

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BREVITY—Identify by IEN-9747 if you write the maker

## JOGGING . . Electric vibrator aligns side and end of pile of papers

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.

Type BTJ-15 is a new adjustable electric vibrator that mounts on a table and is equipped with a corner-positioned bin measuring 10 by 10 by 6 inches. A pile of papers placed in this bin will be jogged to align one side and an end in a few seconds. The bin can be removed and replaced by a partitioned flat-top tray to take filled envelopes on a long edge.

**The jogging action** will then settle the enclosed papers so the envelopes can be put through a knife-type opening machine without cutting any of them. A smaller machine for envelopes only is known as Type EPJ-4.

**List price** for the large machine is $135 for operation on 110-volt 60-cycle ac, or $140 for 220 volts. The smaller machine lists at $68.50 and $72.50.

BREVITY—Identify by IEN-9748 if you write the maker

## DRILLING . . Multiple head machine drills pistons and assembles tubes

Source: NATIONAL AUTOMATIC TOOL CO.
49 National St., Richmond, Ind.

**Nine positions** are included in a complete cycle for this new Holesteel drilling and assembling machine to drill, face, ream, chamfer, wire-brush pistons for a refrigerating machine and to cut off pieces of bearing wire and insert them with cross tubes into the pistons. The machine produces 248 completed units per hour. It was built by the company, largely from standardized mechanisms, for the specified work.

BREVITY—Identify by IEN-9749 if you write the maker

## BUILDINGS . . Progress report on methods of stainless steel curtain wall design

Allegheny Ludlum Steel Corp.
2016-22 Oliver Bldg., Pittsburgh 22, Pa.

**Booklet SS-19**, 24 pages, is intended as a report on proposed methods of building construction in which stainless steel is used for exterior wall facing. Drawings and notes describe structural, non-structural, reinforcing-type, combined methods. Other drawings show installation details, wall shapes.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-9750 if you write the maker

# NOISE MEASUREMENTS

## Simply • Conveniently • Accurately

**Thousands of G-R Type 759-B Sound-Level Meters are in use in industry for all sorts of noise measurement. This meter is direct reading from 24 to 140 db . . . covering every type of noise from a whisper in a sound-proof room to the blast of a locomotive whistle. It can be operated by anyone . . . It is very valuable in measuring plant noise, product noise, and localizing and correcting excessive noise in equipment . . . comparing the effectiveness of sound-proofing materials. Its price . . . complete and ready for use . . . $340.00.**

**WRITE FOR "THE NOISE PRIMER"**

GENERAL RADIO CO.
Cambridge 39, Massachusetts
NEW YORK — CHICAGO — LOS ANGELES

BREVITY—Identify by IEN-9751 if you write the maker

# Gear Unit Made Better . . . but Cheaper with AMGEARS know-how

**Wanted** . . constant mesh 3-speed divider and multiplier transmission for 28 hp.

**Supplied**: Exceptionally compact unit with 2000 rpm. input, 3150 rpm. overdrive and 1000 rpm. underdrive output. Yet, no bronze bearings needed on A and B!

WHY? Amgears designed the output shaft and gears A and B to rotate in same direction. Result, a relatively small difference in velocity between shaft and gear bores, with no load when velocity differences occur.

**Save** on your gear costs . . . improve your products . . . with AMGEARS design help as well as unparalleled gear manufacturing facilities. Write for interesting CASE HISTORIES.

**Production and precision spurs, sprockets, helicals, worms and wormgears; straight and spiral bevel gears and racks.**

AMGEARS, INC.
4653 WEST 63rd STREET
CHICAGO 38, ILLINOIS
A SUBSIDIARY OF HUPP CORPORATION
CONTRACT MANUFACTURERS
Detroit • Cleveland • Chicago

BREVITY—Identify by IEN-9752 if you write the maker

# Sewall SPROCKETS
## Carried in Stock or made to order

*Send For The Sewall Catalog* listing all types of stock sprockets. Sewall roller chain sprockets are available for conveying and power transmission uses. We cut sprockets to order for any type of roller or silent chain. Large and small sizes . . . any material or quantity.

Also Manufacturers of

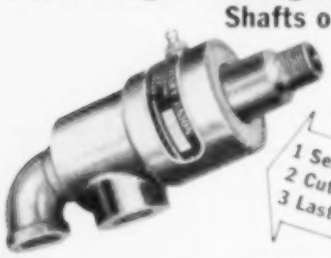
**SEWALL GEARS—**

Custom Made For every Need

E. B. SEWALL MANUFACTURING CO.
686 Glendale St., St. Paul 4, Minn. • NEstor 1381

BREVITY—Identify by IEN-9753 if you write the maker

## For Heating Or Cooling Revolving Shafts or Drums



1 Seal Better
2 Cut Maintenance
3 Last Longer

# ROTARY UNIONS*

The low friction drag, positive sealing, and long and trouble-free service provided by All Purpose Ball Bearing ROTARY UNIONS save power, labor, steam, gas, and condensate. They permit higher machine speeds and uninterrupted production.

ROTARY UNIONS require no complicated piping or brackets and eliminate repacking and constant adjustments.

There is a ROTARY UNION for every application. Expert engineering service is available at no obligation. Write for Catalog 500 I.

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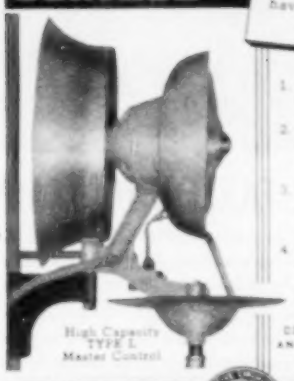
▼ BREEZE—Answer by IEN-9754 if you write the maker ▼

# AUTOMATIC HUMIDITY CONTROL

**The Bahnson HUMIDIFIER** combines in one unit the four basic requirements of industrial humidification that have proven especially successful.




1. Atomizes water into a fine mist.
2. Diffuses the mist with room air until completely absorbed.
3. Distributes resulting humidified air uniformly throughout room.
4. Automatically controls the evaporation to maintain a constant relative humidity.

COMPLETE ENGINEERING AND SERVICE DEPARTMENT FOR CONSULTATION

**Bahnson System**
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

S. C. STIMSON — R. H. ANDERSON — R. T. HODGSON
T. L. BROWN — F. S. FRANBACH — DUNITT CLARK

▼ BREEZE—Answer by IEN-9755 if you write the maker ▼

# SNAP-LOCK
TRADE MARK

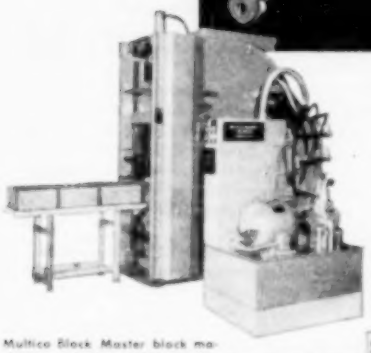
## THE STANDARD for accuracy and dependability on MULTICO BLOCK MASTERS

A total of 11 Snap-Lock Limit Switches are used on every Multiplex concrete block making machine built by the Multiplex Machinery Corporation, of Elmore, Ohio.

In the manufacturer's own words, here's why Snap-Lock was adopted, more than eighteen months ago, for exclusive use on these Multico Block Masters:

"After considerable tests, we standardized on Snap-Lock switches because the entire function of our machine cycle depends directly on the accuracy and dependability of the switches used. The height of the concrete block must be accurately sized, and this can only be controlled by the switch operating the hydraulic head cylinder which ejects the blocks from the mold box. We are maintaining accuracy in height of the block to 1/16". Each limit switch operates on a fifteen-second-cycle basis, resulting in a block production of eight per minute."

Snap-Lock Limit Switches are built in a variety of types and sizes, but each is distinguished by the same exclusive Namco features: SNAP make and break, pure silver self-wiping contacts, positive on or off locking (can't stop on dead center), separate sealed electrical and mechanical sides, hardened steel moving parts and forged levers.



Multico Block Master block machine, made by Multiplex Machinery Corp., Elmore, Ohio equipped exclusively with Namco Snap-Lock Limit Switches. A total of 11 used on each machine.

The complete range of standard Snap-Lock Limit Switches is illustrated and tabulated in Bulletin EM-47. Ask for your copy.

173 EAST 131ST STREET • CLEVELAND 8, OHIO

**NATIONAL ACME**
CLEVELAND, OHIO

▼ BREEZE—Answer by IEN-9757 if you write the maker ▼

## PUMP . . Screw type rotary for oil, light viscous fluids to 150 lb.

Source: DE LAVAL STEAM TURBINE CO.
851-55 Nottingham Way, Trenton 2, N. J.

**Smooth flowing** supply of fuel oil, lubricants, hydraulic fluids, transfer of light viscous liquids are representative applications for this new Series A313A pump in the company's 1300 line of axial flow, positive-delivery pumps. As in previous designs the pump consists of a central power-driven rotor carrying seven threads that mesh with idler rotors on the two sides to form fluid chambers constantly acting from suction near one end to delivery at the other.

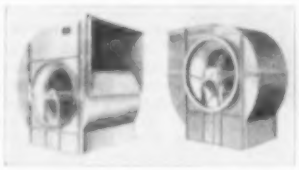
**Drive connects** at the pressure end. Support is provided by a sealed ball bearing. A mechanical shaft seal prevents leakage along the shaft. Complete assemblies with the driving motor and base or the bare pump, can be supplied. Nine ratings of 2.5 to 85 gpm are available based on a 3/4 to 15-hp motor and operation at 1150 to 3500 rpm., when handling liquids similar to medium lubricating oil ranging from 100 to 1000 ssu in viscosity. Three pump sizes, counting the pump only, are about 12 to 17½ in. in overall length, 3¼ to 4¼ in. in height from base to shaft center, 6 and 8½ in. in base width. Inlet and outlet are threaded for 1¼ in. pipe in two sizes, 2 in. in one additional size.

**Bulletin L313A B**, 8 pages, presents section view with illustrated description, tables showing performance, dimensions.

▼ BREEZE—Answer by IEN-9758 if you write the maker ▼

## BLOWERS . . Centrifugal design, two types, 12 to 109 in. impellers

Source: TRANE CO.
2017 Cameron Ave., La Crosse, Wis.



**Types FC and BI**, forward-curved and backwardly-inclined respectively, are included in a new line of centrifugal blowers for air conditioning, power and process applications and for building ventilation. Type FC is available in 21 impeller diameters from 12 to 80 inches. Type BI is in 28 diameters from 12 to 109 inches. Each is made in single and double widths and in Class I and Class II construction. Sizes below 36 in. are convertible between assembly to permit changing discharge direction on the job. The larger units has welded housings and the largest sizes are made with split housings to assist in erection.

**Construction features** include most streamlining, technically calculated blade angles, depths and widths, wheel balancing, calculated ratio of outlet velocity to outlet area, rigid bracing, corrosion resistant coating of chlorinated rubber base enamel. Other coatings of paint or metal or fabrication in aluminum, copper, Monel, stainless steel can be specified.

**Bulletins** DS-348-F and DS-348-B, 80 and 84 pages, and Bulletin DS-348-U, 8 pages, on utility assemblies, present illustrated information to assist in selection by presenting data on performance, dimensions, standard and special arrangements, most efficient zones of operation for each size.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZE—Answer by IEN-9759 if you write the maker ▼

# FABREEKA
## FOR IMPACT SHOCK, VIBRATION, AND NOISE

*Used* "IN COMPRESSION" Gives High Safety Factor
- GREAT STRENGTH — LONG LIFE
- NO TROUBLESOME PERMANENT SET
- CONTROLLED RESILIENCY
- EXTREMELY HIGH DAMPING
- GREAT STABILITY

**SAVES INSTALLATION COST**
No Bolts Needed When Used With Fabreeka Cement

HELPS IMPROVE QUANTITY AND QUALITY OF PRODUCTION

**SAVES MAINTENANCE**
Less Metal Fatigue
Fewer Breakdowns
Less Down Time
Less Upkeep

$ SAVES MONEY $

*Used In Industry Since 1924*

GET Your COPY

**FABREEKA PRODUCTS COMPANY**
INCORPORATED
222K SUMMER ST., BOSTON 10, MASS.

▼ BREEZE—Answer by IEN-9760 if you write the maker ▼

## small CASCADE RECTIFIERS for D-C Voltages up to 135 kv

This small cascade type rectifier for generating smooth high d-c voltages is suitable for laboratory and factory, for testing and as power supply. Features long tube life and much lower cost of replacement tubes. Operates from 115 volt, 60-cycle power supply.

Basic unit is 33 kv, 32-ma continuous rectifier, 20-inches high. Up to four units can be stacked in series, giving d-c voltages up to 135 kv. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

Write for Bulletin GEC-699

**GENERAL ELECTRIC**

▼ BREEZE—Answer by IEN-9761 if you write the maker ▼

## Pressure Reducing Costs GO DOWN When You Use Masoneilan Regulators

You'll find thousands of Masoneilan Regulators in hundreds of plants giving accurate pressure reducing service in various types of application.

It stops "singing" and splashing from fixtures without cutting down flow . . . reduces strain on plumbing. Body Ratings: 150 psi . . . Reduced Pressure Ranges: sizes ¼" to 1" — 10-60 psi; sizes 1¼" to 2" — 10-40; 30-60 psi; size 2" — 15-40; 30-60 psi.

Also available for air service in sizes from ¼" to 1".

*Your local Mason-Neilan industrial distributor is ready to serve you from his stock*

**MASON-NEILAN REGULATOR COMPANY**
1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▼ BREEZE—Answer by IEN-9762 if you write the maker ▼

# famco OFFERS A COMPLETE LINE OF 15" DRILL PRESSES

*Today's Best Drill Press Value*

No. 30 Single Spindle Tilting Table, Bench Model (shown with motor). Famco Drill Presses are available in a complete line of single and multiple spindle models, bench and floor types.

### Here Are a Few of Many Famco Features:

- Heaviest machine in the price field.
- Precision machined throughout.
- Extra large (2 3/64") quill (largest in price field), greater rigidity, accuracy.
- Extra-long (4½") stroke with shorter spindle means greater bearing support.
- No. 30 or ½" Jacobs Chuck, or No. 1 Morse Taper.
- Four sealed for life ball bearings.
- Full-rolling, precision-ground table.
- Quick release motor bracket mounting, (furnished as standard equipment,) permits belt changes without moving motor.
- Easily adjustable feed tension control.
- Six spline spindle provides constant power and greater rigidity.
- Wide range of spindle speeds.

*Write for new catalog just released!*

FAMCO MACHINE CO. • 1303 18th ST., Racine, Wisconsin

**famco** COST CUTTING **machines**

ARBOR PRESSES • DRILL PRESSES • POWER PRESSES • FOOT PRESSES
POWER AND FOOT SQUARING SHEARS

▼ BREVITY—Identify by IEN - 9763 if you write the maker ▼

# JENKINS SWINGTITE

**Exclusive NEW Design assures smooth action, positive closure and longer life**

***For use where valve action must be instantaneous***

See the exclusive rolling disc (A) and the guide track (B) cast in the body of this Fast-Action Bronze Gate. As valve opens or closes (with a quarter turn of the malleable iron lever), guide rims of discs roll freely over tracks, distributing wear evenly, dislodging foreign matter, polishing seating surfaces. *SEND* for folder No. 196. Jenkins Bros., 100 Park Ave., New York 17, or Jenkins Bros., Ltd., Montreal.

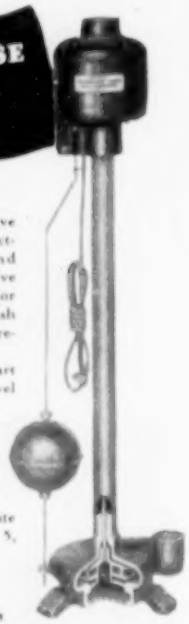
*Sold by leading Industrial Distributors*

LOOK FOR THIS DIAMOND MARK

**JENKINS VALVES**

▼ BREVITY—Identify by IEN - 9764 if you write the maker ▼

**FAIRBANKS-MORSE INDUSTRIAL SUMP PUMPS**



Handy, dependable. Save thousands of dollars by protecting machinery, merchandise and buildings from damage by excessive seepage and flash floods. Ideal for use in boiler and elevator pits, ash dumps, machinery base pits, storerooms, and many other places.

Fairbanks-Morse sump pumps start when water reaches pumping level . . . shut off when danger is passed. Can be left unattended. Made for 2-foot sump pits. Extension columns available when settings require them. For complete details of sizes, construction features, pumping capacities and prices, write Fairbanks, Morse & Co., Chicago 5, Illinois.

**FAIRBANKS-MORSE,**

*a name worth remembering*

DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · PUMPS · SCALES
HOME WATER SERVICE AND HEATING EQUIPMENT · RAIL CARS · FARM MACHINERY

▼ BREVITY—Identify by IEN - 9765 if you write the maker ▼

**FORCE AUTOMATIC NUMBERING MACHINES**

Write for catalog "E" on complete line of automatic self inking dating and numbering machines.

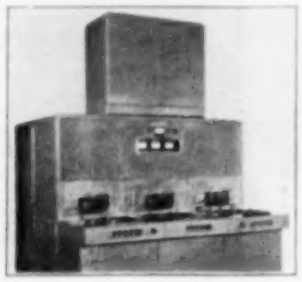
1875-1950 Three quarters of a century service

**WM. A. FORCE AND COMPANY**
INCORPORATED
64 WHITE STREET, NEW YORK 13, N. Y.

▼ BREVITY—Identify by IEN - 9766 if you write the maker ▼

## HEAT TREATING . . Induction machine rates 50 kw., mounts three work stations

Source: REEVE ELECTRONICS
607-11 W. Lake St., Chicago 6, Ill.



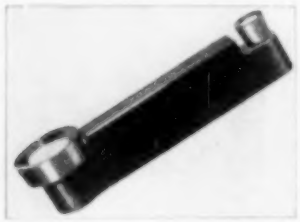
**Model L5d** is a new three-station electronic induction machine for selective hardening of steel work pieces. It operates at 450 kc., employs automatically controlled hydraulic rotating lifts, quench tanks, individual stepless power and timing adjustments for each station. Power output is held constant over a wide range of input voltage variation. Operating temperature is held down by a combination of forced air circulation and a water-to-water heat exchanger. The machine has been built for local hardening of flywheel ring gears and automotive king pins. Both work pieces have a 7-sec. heating interval, the latter at reduced power.

**The machine** measures 90 by 70 by 76 in. over the main generator housing. The heat-exchanger cabinet on top measures 48 by 25 by 43 inches. The work table at the front is 90 by 32 in. and stands 36 in. above the floor. Weight is about 6,000 lb. for the assembled machine.

▼ BREVITY—Identify by IEN - 9767 if you write the maker ▼

## LATHE TOOL . . To machine radius, also applies in shaper, or a planer

Source: FOREST CITY BIT & TOOL CO.
1202 Kishwaukee St., Rockford, Ill.



**Disc-type** cutters mount at the two ends of a holder in this new radius-cutting tool. Each is interchangeable with others of varying radius to cut fillets, grooves, hubs, round corners, shoulders. Radii range from $\frac{3}{32}$ to $\frac{1}{4}$ in. or from $\frac{5}{8}$ to $\frac{3}{4}$ inch. Two sizes of holder measure 1 by $\frac{5}{8}$ by 5 in. and $1\frac{1}{4}$ by $\frac{5}{8}$ by $5\frac{1}{2}$ inches. The holder is alloy steel. The cutter is high-speed tool steel.

▼ BREVITY—Identify by IEN - 9768 if you write the maker ▼

## WELDING . . Technical reprint describes stud welding and its uses

Nelson Stud Welding Div.
E. 28th St. & Toledo Ave., Lorain, Ohio

**Chapter 14** of the Third Edition of the American Welding Society's Welding Handbook has been reprinted and is offered on request by the company as a 16-page booklet. Title is "Stud Welding." It describes operating principle, metallurgical aspects, equipment employed, stud location, applications.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 9769 if you write the maker ▼

*How to be SURE When You Specify Springs*

When we recommend a spring for a particular job you can be sure it's a sound recommendation. For many, many years we have specialized in designing springs and wire shapes for almost every conceivable type of application. Whether your requirements call for a standard design or a spring specially created for your product, you can count on us to provide the spring that is precisely right.

Would you like a copy of American-Fort Pitt's 28 page handbook of engineering data on springs? It's packed with facts and formulas — and it's yours for the asking.

AMERICAN-FORT PITT Spring Division
H. K. PORTER COMPANY, INC. McKees Rocks, Pa.

**AMERICAN-FORT PITT SPRINGS**

▼ BREVITY—Identify by IEN - 9770 if you write the maker ▼

**THE KEY IS**

# HALF THE FASTENING TEAM

Where's the point in perfectly accurate screws and pipe plugs like Allens if you use a wobbly offsize key that bends, strips or gives way? A genuine Allen Hex Key in a genuine Allen ⬡ Socket is the perfect combination. Genuine Allen Keys of Allenoy Steel have the name stamped right on the side, and are available singly or in handy kits at leading distributors everywhere.

**WARNING**
Allen-Type screws aren't necessarily Allen-Made. Get genuine "Pressur-Formd" Allen ⬡ Head screws in the black and silver box.

**ALLEN** ALLEN HEAD
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

▼ BREVITY—Identify by IEN - 9771 if you write the maker ▼

# Here Again...

## National Retaining Rings

★ save time!
★ save money!

★ save material!

"Your retaining rings were selected originally, since it was obvious that a substantial saving in both material and labor cost would be effected by their use."

The quotation is from a letter of Air Purification Service Inc., Newark 2, New Jersey, whose excellent "Vapor Roll" illustrated above is so widely used in homes, business places, hospitals and other institutions to kill air-borne germs and viruses.

Examine the design of your machines and products. No doubt these inexpensive, efficient artificial shoulders can increase your profits too. Retaining rings have endless uses ranging from drill presses and heavy duty engines to toys, gadgets and small parts of innumerable articles.

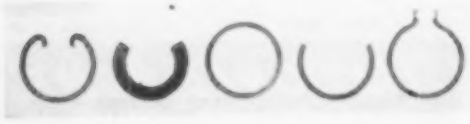
It's wasteful to cut down shafts to make shoulders. Redesign to groove smaller shafts and housings and use these high grade steel rings.

Let our engineers consult with you. Send for folders.

Don't pass up this opportunity to increase your margin and your sales.

**THE NATIONAL LOCK WASHER CO.**
NEWARK 5, NEW JERSEY · MILWAUKEE 2, WISCONSIN

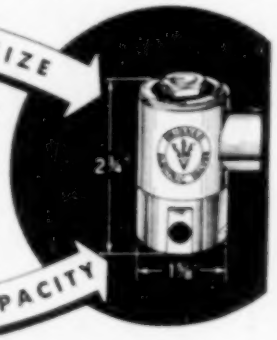
NATIONAL



▼ BREVITY—Identify by IEN - 9773 if you write the maker ▼

SMALL IN SIZE

**Solenoid** STAINLESS STEEL **Valves**




LARGE IN CAPACITY

THREE WAY-Two Position-Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed TWO WAY-Normally Open

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived controls for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

*Write for Bulletin No. 491*

**Skinner ELECTRIC VALVE DIV.**
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

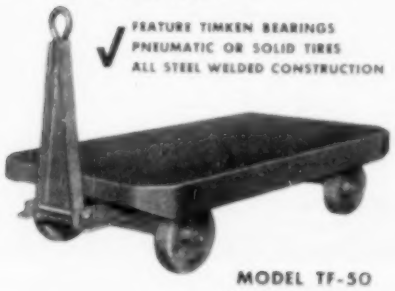
▼ BREVITY—Identify by IEN - 9774 if you write the maker ▼

# Phillips INDUSTRIAL TRAILERS

✓ FOR HAULING ALL KINDS OF INDUSTRIAL PRODUCTS—MATERIALS

✓ MADE IN SIZES AND CAPACITIES TO MEET YOUR NEED

✓ FEATURE TIMKEN BEARINGS
PNEUMATIC OR SOLID TIRES
ALL STEEL WELDED CONSTRUCTION



MODEL TF-50
2½ Ton Capacity

MODEL TD-400
20 Ton Capacity

Write today for complete data!

Phillips Industrial Trailers simplify hauling of heavy loads in and around industrial plants . . . with substantial savings in time, effort, and money. Ruggedly built to withstand long, hard usage, these trailers are available in 2½, 5, 10, 15 and 20 ton capacities. Easily maneuverable—they can be used singly or in tandem, for every industrial hauling requirement.

MANUFACTURERS SINCE 1861 **PHILLIPS** WIRE AND MILL SUPPLY COMPANY PITTSBURGH PA.

**MATERIALS HANDLING EQUIPMENT**

2300 JANE STREET · PITTSBURGH 3, PA.

▼ BREVITY—Identify by IEN - 9776 if you write the maker ▼

## LIGHTING . . Floodlight fixture, disconnect design for ground servicing

Source: THOMPSON ELECTRIC CO.
1103-37 Power Ave., Cleveland 14, Ohio

**Two fixtures** are supported on a yoke in this new assembly of the company's disconnect lighting equipment for chain support from overhead. The arrangement permits lowering the fixtures so lamps can be changed and reflectors cleaned at ground level. The disconnect fitting contains the electrical contacts that open the circuit when the fixture is lowered so it is electrically "dead". Raising the fixture remakes the contacts. There is provision to lock the chain in operating position. Yoke assembly and hanger are made of aluminum as standard construction.

▼ BREVITY—Identify by IEN - 9777 if you write the maker ▼

## FLOOR . . Treated hardwood fibers, plastic binder, applies with trowel

Source: ROC-WOOD FLOORING
2266-70 S. Parkway, Chicago 16, Ill.

To be mixed prior to using

**Load capacity** is to 4,000 lb. for a new floor-surfacing material made of hardwood fibers that have been chemically treated and bonded with plastic. The material is packaged in separate containers that include a bag of the hardwood mix, a 5-gal. can of treating liquid and a carton of bonding material. The three-part unit weighs about 115 lb. and will cover about 50 sq. ft. to a thickness of ¼ in. when not packed.

**Application** is by trowel after the mix has been made and the concrete surface of the rough finished floor has been cleaned according to directions. The material hardens for traffic in 24 hours. Color is the natural wood tone. The finished surface resembles wood in underfoot effect. It can be stained, waxed, painted. The surface can be patched at a later date by added material to trowel to a feather edge.

▼ BREVITY—Identify by IEN - 9778 if you write the maker ▼

## CLEANING . . Air-water spray gun for pressure air and hot or cold water

Source: TURCO PRODUCTS INC.
6133-37 S. Central Ave., Los Angeles 1, Calif.

**Air at 100 lb.** or more and water at 50 lb. or more connect to the base of the handle on this new gun. The air is adjusted at a knob at the rear of the barrel and the water by turning the delivery tube at the front. The gun can be set to deliver a fine or heavy spray that will clean off heavy grease and dirt but that will not harm a finished surface.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 9779 if you write the maker ▼

# NEW! Low Cost *Micro-Mesh* DONALDSON AIR CLEANER!

Efficient . . . compact . . . simple to attach and service . . . the new Donaldson Micro-Mesh air cleaner meets every qualification for installations where air requirements are moderate, yet its cost is less than that of oil-washed types. It filters efficiently at any angle, simplifying design problems. Dust entering cleaner is trapped on an oil wetted filter element, knit from a continuous strand of crimped copper ribbon. Uniform in density, the filter element is placed in the deep-drawn, stress-plate body under slight compression. It will not break down, shift or sag.

*Sample Cleaner Sent On Request*

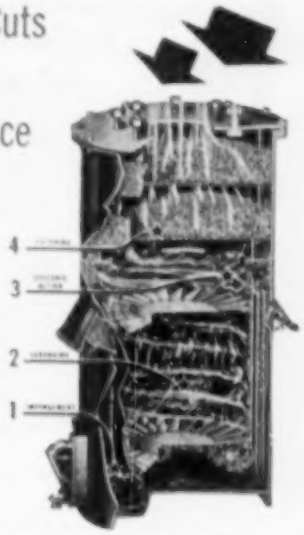
**DONALDSON** COMPANY INC.
666 PELHAM BLVD. · ST. PAUL 4, MINNESOTA

▼ BREVITY—Identify by IEN - 9780 if you write the maker ▼

# Clean Air Cuts Engine Maintenance Costs

● Dust damage, resulting in costly engine shutdowns and repairs, can be eliminated with the installation of Cycoil Oil Bath Air Cleaners. This heavy-duty unit provides 4-way cleaning—impingement, scrubbing, cyclonic action and filtering—to insure approximately 100% clean air under the most severe dust conditions.

Cycoil's positive protection costs little compared to the investment it is guarding. Write for copy of Bulletin 150-D.




**AMERICAN AIR FILTER COMPANY, INC.**
335 CENTRAL AVE., LOUISVILLE 8, KY.
*In Canada: Darling Bros., Ltd., Montreal, P. Q.*

AAF **Cycoil** OIL BATH AIR CLEANER AND INTAKE SILENCER

▼ BREVITY—Identify by IEN - 9781 if you write the maker ▼

## THIS BOOK CAN SAVE YOU MONEY ON QUALITY NAME PLATES

Etched or lithographed on metal, Ecoa quality name plates add sales appeal to your product—look better, longer. You can save money by using one of the 5000 shapes and sizes for which we have dies in stock. Ask us to quote on your name plate requirements. If you can use this book of stock shapes and sizes, write for it on your letterhead.

**ETCHING COMPANY OF AMERICA**
1520 Montana St., Chicago 14, Ill., Dept. F-10
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

▼ BREVITY—Identify by IEN - 9782 if you write the maker ▼

# Cost of Handling Steel Bars Cut in Half with BAKER TRUCK

JONES & LAUGHLIN DETROIT WAREHOUSE USES CRANE TRUCKS AND PORTABLE RACKS FOR MORE EFFICIENT HANDLING AND STORAGE

Portable sectional racks for storing steel bar stock plus the use of a BAKER Crane Truck cut handling costs in half at a Jones & Laughlin Warehouse. Stock was formerly stored in upright position, requiring laborious manual handling. Previous to the use of the truck and the portable racks, 6, 8, or more men were needed to pile steel and fill orders. The entire operation is now handled by three men, costs have been halved, and the truck still has time to handle steel packs—a further saving.

*A Baker Material Handling Engineer will be glad to show you how similar savings can be made in your plant or warehouse.*

**BAKER INDUSTRIAL TRUCK DIVISION**
*of The Baker-Raulang Company*
1226 WEST 80th STREET · CLEVELAND 2, OHIO

**Baker INDUSTRIAL TRUCKS**

BREEZE—Identify by IEN-9783 if you write the maker

# A TOOL BOX AT YOUR FINGERTIPS

## SET NO. 1 FOR SMALL SHOPS

Continental Interchangeable Counterbore sets give you a wide variety of cutting tools in a compact, convenient form. Three sets are available, for the large or small toolroom. Each set features the famous Continental indestructible drive that will not stick, will not break, and is always hand detachable. Full details are given in Bulletin D27161. Send for your copy.

**CONTINENTAL TOOL WORKS**
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

CTW

BREEZE—Identify by IEN-9784 if you write the maker

# Sh-h-h!

## For very, very quiet ventilation investigate the new Swartwout Airlift

Completely engineered centrifugal type ventilator for efficient duct exhaust against static pressure. Write for Bulletin 411B.

16511 Euclid Avenue, Cleveland 12, Ohio

**The Swartwout Co.**
Industrial Ventilation Specialists Since 1904
Equipment for Controlled Air Circulation

BREEZE—Identify by IEN-9785 if you write the maker

# Smooth Traffic SAVES Time . . . . . MONEY!

The smooth flow of materials in your factory, warehouse, store, really rings the cash register . . . and no matter what your traffic problem is, we have the right kind of package conveyor equipment — belt, roller, chain — to handle it most efficiently.

*For the whole story, MAIL THE COUPON.*

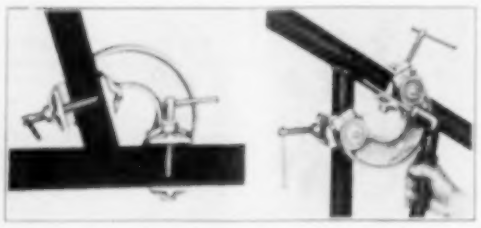
**CONVEYOR SPECIALTY COMPANY INC.**
35 Newport Ave.
North Quincy 71, Mass.

Please mail me your Conveyor Catalog
Name
Company
Address
&

BREEZE—Identify by IEN-9786 if you write the maker

## CLAMP . . Double end adjustable to position work pieces for welding

Source: BERNARD WELDING EQUIPMENT CO.
741-5 E. 71st St., Chicago 19, Ill.



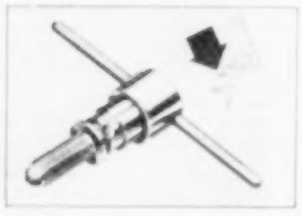
**C-shaped frame** mounts swivel connections carrying clamping screws and heads in this new Model B Pro-Clamp. The screws retract to provide maximum opening of 2¼ inches. The screws can be positioned in either of the two head shoulders of which one is flat and the other V-type.

**The heads** swivel through 360 deg. and clamp to desired angular positions. Protractor scales assist in a given setting. Construction is in steel with cadmium plating. The screws are ⅝ in. units with hardened tips. Weight is 11½ pounds.

BREEZE—Identify by IEN-9787 if you write the maker

## FASTENING . . Safety clamping bolt releases handle when under pressure

Source: THOMAS C. WILSON INC.
21-13 44th Ave., Long Island City 1, N. Y.



**Wilson - Dunton** Safety Bolt is a new handle-equipped bolt for application in the clamp that holds an oil burner in position at a furnace. The bolt threads into the pressure area so that oil under pressure can enter a hole through its center to act on an enclosed spring-backed piston.

**The pressure** causes the piston to retract against the spring and release connection between bolt shank and handle. In this position the bolt cannot be turned and there is no danger of removing a burner while it is under pressure. The assembly carries a ⅝ in. thread and a T-handle measuring 8½ in. in length.

BREEZE—Identify by IEN-9788 if you write the maker

## BUILDINGS . . Design data for Cemesto insulating panel structures

Celotex Corp.
122 S. La Salle St., Chicago 3, Ill.

**Detail drawings,** design suggestions, application data are presented in new 80-page File 5000 on insulated buildings based on the Company's Cemesto Board. This material is a structural insulating panel with a core of laminated cane fibre insulating board surfaced on both sides with asbestos-cement boards. They are bonded by bituminous adhesive. Information covers use on walls, roof decks, partitions with steel or wood framing to form structures.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREEZE—Identify by IEN-9789 if you write the maker

# WHY FIGHT frozen Studs, Nuts or Bolts?

## "JOHN CRANE" PLASTIC LEAD SEAL® stops leaks . . . . prevents thread seizure

Why use a red or white lead pipe dope on your threads, when Underwriters' Approved non-hardening Plastic Lead Seal will do the job so much better?

It costs no more to use the best. The original application is no more expensive — yet it means that you can forget leakage worries . . that you will never be faced with breaking a frozen connection, stud, bolt, or nut!

*Make your first Plastic Lead Seal application now. Write us — we'll send a free sample.*

**JOHN CRANE CRANE PACKING COMPANY**
1815 CUYLER AVENUE · CHICAGO 13, ILL.

BREEZE—Identify by IEN-9790 if you write the maker

RAISE YOUR LOAD

# two feet higher

WITH THE NEW...

## AMERICAN HIGH LIFT CRANE BLOCK

GETS YOU OUT OF TIGHT SPOTS because it's 1½ to 2 feet shorter than ordinary crane blocks. Often saves adding a boom section. Anti-friction bearings throughout. Needs lubrication only once every 2,000 hours. Sizes 10 to 50 tons; one, two or three sheaves, 18" to 24" diameter. *Send for catalog today!*

**American Hoist & Derrick Company**
St. Paul 1, Minnesota

BREEZE—Identify by IEN-9791 if you write the maker

Better Coating at Lower Cost with

# POTDEVIN Coating Machines

Manufacturers in every field have been depending on their "POTDEVINS" to cut down operating costs.

*Illustrated is Model 2 R for applying any type coating to any kind of material.*

There is a POTDEVIN coating machine for every job . . from a 6-inch hand-operated model for small work to a giant 48-inch semi-automatic for mass production. Dark coating materials as hot as cold glues, latex, resins, paint, varnish and lacquer, as well as many of the new type coating materials, work with equal ease . . . and the amount of coating is accurately controlled. Write POTDEVIN today for full particulars, and discover how easy your coating problems can be solved with a "POTDEVIN" machine. And you don't need skilled help to operate a POTDEVIN.

**POTDEVIN MACHINE CO.**
1213 38th St., Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

BREEZE—Identify by IEN-9792 if you write the maker

## WHERE AND WHEN YOU NEED IT!

PORTABILITY is feature of new SPO Series No. 76 pneumatic vibrators. 8 sizes of this powerful, dependable unit are available to meet every vibration need in handling sand, gravel, chips, lime, and other granular or powdered materials.

Series 76 impact vibrators are recommended for use on bins, hoppers, chutes, and match plates. Air operation assures economical use, full portability, and minimum maintenance.

Only SPO vibrators incorporate a pressed metal cylinder liner which provides for permanent lubrication, long service life, and maximum efficiency of operation.

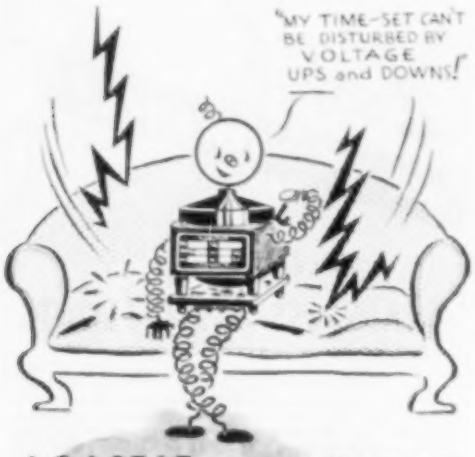
SPO Series 76 vibrators deliver from 2200 to 6000 impacts per minute, depending upon size, operating on standard line pressure of 80 psi. Speed of vibration is regulated by varying line pressure. Piston diameters range from ⅛ to 2½ inches.

SPO re-build service will keep your SPO VIBRATORS IN NEW CONDITION. Send your SPO home for repair.

Write today for catalog

**SPO INCORPORATED**
6453 GRAND DIVISION AVENUE
CLEVELAND 5, OHIO

BREVITY—Identify by IEN-9793 if you write the maker




**AGASTAT TIME DELAY RELAY**

Readily adjustable . . . flexible . . . instantaneously recycling . . . small, compact and easily mounted.

*Literature and information without obligation.*

AGA AGA AGA AGA

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

BREVITY—Identify by IEN-9794 if you write the maker

*Another Problem*
*SOLVED—*

COURTESY OF NATIONAL CARBOLOY CO., INC.

ELIMINATING ALIGNMENT HEADACHES WITH

**Bendix**
*Eclipse Flexible Metal Hose*

Use of rigid piping was originally attempted in making multiple fuel line connections to this steam generator. Alignment was such a problem, however, that this type of installation was given up. Bendix Flexible Nipples were then tried and solved the problem immediately. On any installation where alignment is difficult—where expansion joints or unusual pipe bends are required—solve your problems the *easy* way with Bendix Flexible Metal Hose.* Write today and let our engineers work out your problem with you.

**Engineered to your requirements in 85-15 bronze, SAE 1010 carbon steel, stainless steel, Monel, beryllium copper, cupro nickel and other special alloys.*

LOOK FOR THE MARK OF QUALITY

ECLIPSE-PIONEER DIVISION
BENDIX AVIATION CORPORATION
TETERBORO, NEW JERSEY
Canadian Representative: The Holden Co., Ltd., 614 St. James Street, West Montreal 3, Canada

Export Sales: Bendix International Division, 72 Fifth Ave., New York 11, N. Y.

BREVITY—Identify by IEN-9796 if you write the maker

## CONVEYING . . Chain flight assembly for movement between floors, reversible

Source: WEHLE CONVEYOR CO.
202 Water St., Binghamton, N. Y.

**Load capacity** is to 150 lb. and incline is to 42 deg. for this new chain-flight conveyor. The chain is driven by a ½ hp. geared motor to move loads upward by power and down by either power or by gravity. The chain rides in a narrow slot in the center of the main steel trough which can be supplied in 16 or 18 in. width. Length of the main run and spacing between pusher fingers can be specified to meet individual requirements.

BREVITY—Identify by IEN-9797 if you write the maker

## DRIVE . . Hydraulic liquid is flame resistant, also will lubricate

Source: MONSANTO CHEMICAL CO.
1702 S. Second St., St. Louis 4, Mo.

**Designed for use in place of oil**

Type OS-16 is a new synthetic base compound supplied in liquid form for use in industrial hydraulic equipment as the pressure-transmitting medium. The liquid is flame resistant, has excellent lubricating properties. It is free from halogenated hydrocarbons, salts, water. It will not corrode bearings or other metal parts. It is a semiconductor of electricity, does not irritate the skin, is nonfatal and requires no special precautions in handling or use.

**Special Data:** packing and gasket materials are recommended and the compound is prepared to name several sources for them. Pour point is minus 70 deg. F. Appearance is clear, blue and oily. Flash point is 450 deg. F. Viscosity is 11.00 centistokes at 100 deg. F., 2.65 at 210 deg. F.

BREVITY—Identify by IEN-9798 if you write the maker

## FLOORS . . Magnesium dockboard bridges platform gap to car or truck

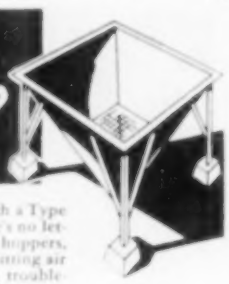
Source: MAGLINE INC.
1947-51 Mercer St., Pinconning, Mich.

**Series M1** for loads to 5½ tons per axle and Series M2 for loads to 1 ton constitute a new line of magnesium dockboards particularly for loading and unloading operations at truck platforms. The board includes a latch that drops over the edge of the platform to secure the truck in lengthwise position. The board is counted to clear the platform edge. Sizes are available to meet normal requirements in truck shipping.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

BREVITY—Identify by IEN-9799 if you write the maker

**Bin Stuck Lately?**



*It won't be if* it's equipped with a Type *F* Cleveland Air Vibrator. There's no let-up in the flow of material from hoppers, bins or chutes when this hard-hitting air vibrator is in action . . . stops troublesome arching and plugging of bins.

Engineered for rugged service, Type *F* Air Vibrators are low in air consumption and cost, and require only minimum maintenance . . . easily attached to wood, metal or concrete structures.

Complete 'packaged' vibrator kits, including fittings, lubricator, operating valve and vibrator are obtainable to move bin loads from one to several hundred tons. Instant starting with full power is assured.

With 6 standard sizes available from stock, there's a type *F* Cleveland Vibrator to stir any bin into action.

Drop a card in the mail for Catalog No. 105

THE CLEVELAND VIBRATOR COMPANY
2737 Clinton Ave. · Cleveland 13, Ohio

BREVITY—Identify by IEN-9800 if you write the maker

**CYCLONE METAL CONVEYOR BELTS**
UNITED STATES STEEL

BREVITY—Identify by IEN-9801 if you write the maker

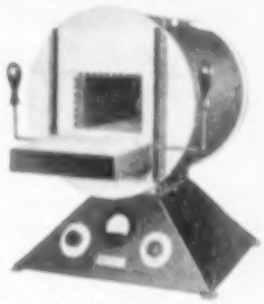
HEVI DUTY ELECTRIC COMPANY

A NEW HEVI DUTY
**MUFFLE FURNACE**

*With Many Advantages For*
1850° F.
TEMPERATURE

FOUR STANDARD SIZES

Write for Bulletin LAB-849



- ★ Less Heat Loss — Improved Insulation and No Rheostats
- ★ Better Control Through a 36 Step Tap Changing Transformer in the Pyramidal Base
- ★ Pyrometer and Transformer Control Assembly in Easily Removed Base Drawer
- ★ Reversible Multiple Unit Heating Elements

HEVI DUTY ELECTRIC COMPANY
LABORATORY FURNACES MULTIPLE UNIT ELECTRIC RESISTORS
MILWAUKEE 1, WISCONSIN

BREVITY—Identify by IEN-9802 if you write the maker

MAIL COUPON TODAY

Koehring 304 Cruiser Crane, mounted on rubber, goes anywhere . . . is not tied down to tracks . . . increases storage area . . . travels 5.37 m.p.h. . . . lifts up to 50,000 lbs. . . . is one-man operated. Send for more information and complete facts.

KOEHRING COMPANY, Dept. P, MILWAUKEE 10, WIS.
Please send literature on 304 Cruiser Crane for .....
(Type of plant or work to be handled)
NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY & STATE ..... IEN KEL

**KOEHRING 304 CRUISER CRANE**
KOEHRING COMPANY, Milwaukee 10, Wis.

BREVITY—Identify by IEN - 9803 if you write the maker

every style and type

# Rubber Bumpers

**What do you need?**

Largest and most varied stocks in the U.S.A. UNUSUAL STYLES to meet every demand. Low cost and prompt delivery assured.

FREE 44 PAGE CATALOG
Full data on all Mechanical and Industrial Rubber Goods. 56 Years Experience. Write Today. Catalog M3 46.

*Take it up with*

**LAVELLE Rubber Company**

1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

BREVITY—Identify by IEN - 9804 if you write the maker

*Slash Costs of*

**LOW VISCOSITY PUMPING**

**with SIER-BATH ROTARY PUMPS**

Sier-Bath Screw Pump Capacities: 1-700 GPM

**POSITIVE DISPLACEMENT OF SMALL VOLUMES AT HIGH PRESSURES—WITH NO ROTOR CONTACT!**

***Lower Original Cost***
Eliminate need for over-size pumps, expensive throttling valves—lessen need for costly metering valves.

***Lower Operating Cost***
Need less power. No drive-wear on rotors or casings. Automatic timers replace valves, manpower.

***Lower Maintenance Costs***
Eliminate fast-wearing valves. Oil-lubricated external bearings, no metallic contact. Low pressure on stuffing boxes. Direct-connected up to 1200 RPM. Available in corrosion-resistant alloys.

FOR LOWER PRESSURES, EXTERNAL BEARING GEAREX TYPE.

Members A.G.M.A. Founded 1905

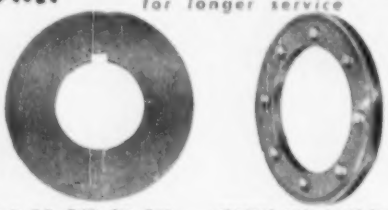
Capacities: 1-550 GPM

WRITE FOR BULLETINS

**Sier-Bath** GEAR and PUMP CO., Inc.
9251 Hudson Blvd., North Bergen, N. J.

BREVITY—Identify by IEN - 9805 if you write the maker

**O.K. GANG SLITTER KNIVES** *for longer service*



Made in O.K. Battle Axe, Dura-Chrome or Standard Carbon Grades. Precision ground to ±.0002 inter-knive in thickness, diameter and bore. Extremely high finish. SPACERS for above in hardened or unhardened grade ground to same tolerances as Slitters.
We make rotary cutters similar to the one shown for trimming sheet steel, light plate. Some are made with bevels for cutting paper, rubber, plastic, cloth, etc.

**O.K. ROTARY SHEARS & BLADES** *for maximum toughness*

*The* **OHIO KNIFE** *Co.*

CINCINNATI 23, OHIO, U. S. A.

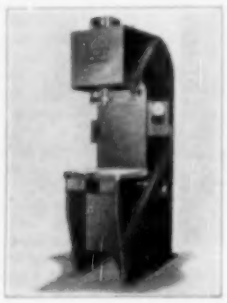
CLIP AND MAIL TODAY

THE OHIO KNIFE CO., CINCINNATI 23, OHIO
Gentlemen: Please send without obligation specific data on knives I have checked.
☐ CIRCULAR KNIVES ☐ SHEAR BLADES
COMPANY
NAME
ADDRESS
(15)

BREVITY—Identify by IEN - 9806 if you write the maker

**PRESS . . Hydraulic forcing machine rates 10 ton, maximum 12 in. stroke**

Source: HANNIFIN CORP.
1108 S. Kilbourn Ave., Chicago 24, Ill.



**Motor driven pump** rating 5 hp. and 11 gpm. on constant volume is built into this new forcing press. A relief valve can be adjusted for any pressure under full capacity down to 10 per cent or 1 ton. Control is standard at a single hand lever which is moved down to bring the ram down, released for ram return. Dual lever can be applied. The company's Sensitive Pressure control is available also. A differential circuit can be added to double the approach speed without affecting feed pressure or rapid return performance.

Model F-101 designates the new press which is characterized by its simplified design with attendent modest price and availability for quick delivery. The machine mounts on the floor on an 18 by 20 by 36 in. table base. It opens to 22 in. between ram and table, has a 3-in. slot and 10-in. throat.

BREVITY—Identify by IEN - 9807 if you write the maker

**ROLLING . . Hand operated mill for flat strip, wire, special shapes**

Source: STANAT MFG. CO.
47-30 37th St., Long Island City 1, N. Y.

**Series 50** is a new line of hand-operated helical-geared rolling mills mounting rolls that measure 2¾ in. in diameter by 3½ in. in face length. The rolls are made of alloy steel, plain for flat work, grooved or shaped for other rolling jobs. Bearings are made of bronze. Spacing is adjusted from a maximum 1-in. opening by turning a handwheel geared to two feed screws. A micrometer dial is included in the adjustment.

**Drive** is by a crank that can be applied on either side. The machine is available in a number of arrangements including one on a floor stand as shown in the illustration.

BREVITY—Identify by IEN - 9808 if you write the maker

**CONVEYING . . Sound slide film shows role of conveyors in material handling**

Conveyor Equipment Mfrs. Ass'n.,
1129-31 Vermont Ave. N.W., Washington 5, D. C.

**"Yours to Command"** titles new educational film with showing time of 24 minutes. It traces development of the conveyor in American industry, emphasizes cost cutting and job creation, shows a variety of modern applications. Address your request for information to Mr. R. C. Sollenberger.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 9809 if you write the maker

**Clarin Steel Folding Chairs**
are designed for
☆ Long Life ☆ Real Comfort
☆ Smart Appearance

and offer you —
- Great Strength and Durability
- Easy, Quiet Opening and Closing
- Broad, Correctly Pitched Seat and Back Panel
- Rubber Silencers prevent Noise and Scratching
- Finest Enamel Finishes
- Choice Upholsteries
- 10-Year Guarantee against Breakage

write

**CLARIN MFG. CO.**
4640 W. Harrison St. Dept. 1-10
CHICAGO 44, ILLINOIS

Clarin Chairs are the answer to every auxiliary seating need.

There are more Clarin steel folding chairs in Institutional Service than any other make

BREVITY—Identify by IEN - 9810 if you write the maker

# STAINLESS STEEL FLOATS

Your product will be better, will require virtually no maintenance, if it is equipped with Chicago's stainless floats. In fifteen years of making welded stainless steel floats, Chicago Float Works has produced many thousands with excellent results under severe operating conditions. This enviable record assures you of the finest, most dependable floats available to build into your products or for replacement use.

**CHECK THESE FEATURES**
- Standard Diameters 2 to 10".
- Pressures to 1000 lbs.
- Temperatures to 800°F.
- All Standard Spud Connections.
- Top quality 18-8 Stainless Steel.
- Non-corized weld for superior strength, and corrosion resistance available where required.

WRITE FOR FREE CATALOG

**CHICAGO FLOAT WORKS, INC.**
2326 So. Western Avenue • Chicago 8, Illinois

BREVITY—Identify by IEN - 9811 if you write the maker

*When Time is Money*

**Wilshire POWER SWEEPER PAYS OFF!**

FEATURES
- 100% visibility
- High maneuverability
- Fast, efficient operation
- Special Wilshire dust control
- Either 36" or 48" sweep
- Forward and reverse drive

**Cuts Sweeping Time 75% or more**

Wilshire's new Model 1000, Super Heavy Duty Sweeper, takes sweeping jobs as they come. Sweeping goes on while work is in progress. Special dust control keeps working conditions at their best—and the one compact unit does the work of many men with a minimum of confusion. Sweeps cleaner, closer, faster. For your next big job, use the "35 manpower" sweeper — Wilshire Model 1000.

**Favorite Sweeper of the Industry**
- All-steel construction
- Special Wilshire dust control
- Finger-tip dual control
- Either 36" or 48" sweep

FREE DEMONSTRATION ON YOUR JOB — Write for full information and dealer nearest you.

USED BY LEADING FIRMS FROM COAST TO COAST
B. & O. Railroad • Continental Baking Co. • Ford Motor Co. • Gimbel's • La Guardia Field • Railway Express Agency • R. J. Reynolds Tobacco Co. • Sears, Roebuck & Co. • The Texas Company • U. S. Steel • Western Electric Co.

**Wilshire POWER SWEEPER CO.**
P.O. Box 12723, Griffith Sta.
Los Angeles 39, California

Dealers throughout the U.S. and Canada

*Sweeping the Country since 1940!*

▼ BREVITY—Identify by IEN - 9813 if you write the maker ▼

## TO CLEAN YOUR DIE MOLDS..

Moisture, oil and foreign matter completely removed from air lines by patented one-piece separator and eliminator chamber.

Does not waste air by continuous venting. Positive, automatic, effective for paint sprays, sand blasting, etc.

**RAILWAY AND INDUSTRIAL ENGINEERING CO.**
**GREENSBURG, PA.**

▼ BREVITY—Identify by IEN - 9814 if you write the maker ▼

*Instead of this . . .*

**BETTER BUY BERNZ LP GAS TORCH!**

A mighty mite for man-size jobs. Weighs only 2½ lbs., burns in any position, any time, even at minus 40° F. Complete with pencil flame and utility burners. Slick-as-a-whistle orifice cleans in 30 seconds. Inexpensive cartridge refill at any LP dealer's. BETTER BUY BERNZ, only portable torch with ICC approval.

OTTO
**BERNZ**

**OTTO BERNZ CO., Inc.**
**280 LYELL AVE., ROCHESTER 6, N. Y.**
TORCHES • FIREPOTS • MECHANICS TOOLS

▼ BREVITY—Identify by IEN - 9815 if you write the maker ▼

**STOP!**
**LEAKY SEATS . . .**

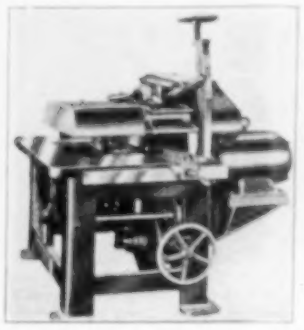
Add clapper noise with **Wheatley Synthetic Rubber Seal Check Valves.** Iron, steel, aluminum, bronze, stainless: ASA 2" to 30", bronze clapper, replaceable synthetic ring seal. Holds with weight of clapper alone. Resists abrasive action, wear. Seals around foreign particles, muffles clapper noise. Flanged, screwed, or both.

**FRANK WHEATLEY PUMP & VALVE MFR.**
TULSA 6, OKLAHOMA

▼ BREVITY—Identify by IEN - 9816 if you write the maker ▼

## WOOD WORKING . . Rip saw machine for gang work in lumber to 4 inches

Source: DEPENDABLE MACHINE CO.
P.O. Box 839-A, Greensboro, N. C.



**Direct drive** with a 10 to 20-hp. motor or belt connected drive can be specified for this new gang rip-sawing machine. It is available in two saw-arbor lengths to take circular blades to a maximum width of 6 and 12 inches. Work thickness is to 4 in. when the blades measure 16 in. in diameter. Tables on the two sizes measure 32 and 36 in. in width. Both are 56 in. in length. The spindle is mounted in ball bearings with bearing housings keyed to the table. Rotation is at 3,000 rpm. with the direct-connected motor. It is at 2,400 to 3,000 when the motor is belt connected, the desired speed being specified.

**Feed** is by power driven rollers above the work which rides on additional rollers in front and back of the blade in the table. A four-step sheave permits adjustment between 100 and 250 fpm. A clutch and lever are provided for operator control. Feed shafts are assembled in ball bearings. The feed rollers are chain connected. Work is positioned laterally by an adjustable guide. Dust from the operation exists through a 6 in. connecting fitting to attach into a dust-collecting installation. List prices range from about $1,300 to $1,770.

**Bulletin C-3, 6 pages,** pictures and presents complete specifications on two sizes and two designs of gang rip saws.

▼ BREVITY—Identify by IEN - 9817 if you write the maker ▼

## HEATING . . Gas burner in flanged sections for line assembly

Source: VAPOFIER CORP.
10314-18 S. Throop St., Chicago 43, Ill.

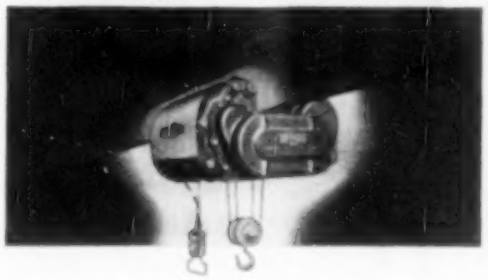
**Continuous flame** in straight-line runs can be set up by various combinations in this assembly of flanged burner sections. The individual units carry double recessed slots of the point end of a pear-shaped cross section. Drilling in the slots feeds the gas to make a continuous flame issuing from the slot. The burner will handle any type of gas with suitable auxiliary equipment.

**Capacities** range from 10,000 to 50,000 btu. per ft. of slot length in any desired arrangement. Individual parts include the T shaped unit with 12-in. slot, three flanged extension units with 12, 6 and 3-in. slots, a cross with a 6-in. and a 3-in. slot and several flange fittings for auxiliary use. The design provides for positive ignition and flame retention in the presence of moving air.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 9818 if you write the maker ▼

## Only LO-HED gives ALL these advantages!



TODAY'S BEST BUY is Lo-Hed Electric Hoists. Lo-Heds are the only "balanced design" hoists that afford longer working life at least cost. With no working parts under the "I" beam or track, they lift loads higher. They've a transformer that protects operator . . . a shrouded button block . . . a hook hung on a revolving bearing . . . more reliable electrical cables.

Lo-Hed Hoists come in five suspension types and a range of capacities. Mail coupon for full data.

LO-HED MEANS LOW OVERHEAD

**AMERICAN ENGINEERING COMPANY**
**PHILADELPHIA 25, PA.**

Other AE Products are: Taylor and Pulsar Speed Shakers, Marine Deck Auxiliaries, Hole-Hog Field Power, Lo-Hed Car Shakers, Lo-Hed Car Pullers

▼ BREVITY—Identify by IEN - 9819 if you write the maker ▼

## *Compensator Control Cuts Costs*

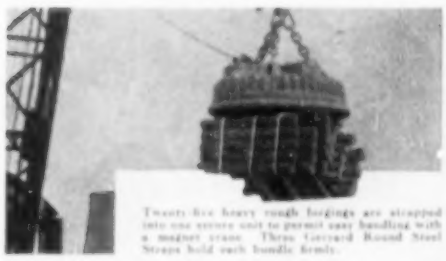
Compensator-controlled HydrOlLic pumps save horsepower during dwell periods . . . use less space than two-pump circuits . . . often reduce pump needs from two units to only one . . . eliminate the need for unloader valves, extra piping, and double-end-shaft electric motors . . . frequently permit the use of smaller electric motors . . . improve over-all circuit efficiency . . . allow unlimited adjustment of control for varying requirements . . . reduce heat by increasing efficiency during high-pressure operation. These and other advantages make Denison compensator-controlled hydraulic pumps a better, lower-cost answer to a wide variety of needs. Write for full details!

DENISON HydrOlLic

The DENISON Engineering Co.,
1150 Dublin Rd., Columbus 16, Ohio

**Denison HydrOlLic Pumps**

▼ BREVITY—Identify by IEN - 9820 if you write the maker ▼



Twenty-five heavy rough forgings are strapped into one secure unit to permit easy handling with a magnet crane. Three Gerrard Round Steel Straps hold each bundle firmly.

## *TIE IT TIGHT...*
## *that means GERRARD!*

**Tight as tight as can be . . .** that's the kind of tie Gerrard Strapping gives you. Gerrard Round Strapping clinches evenly at corners . . . danger of breakage is sharply reduced. Packages remain firm from plant to destination.

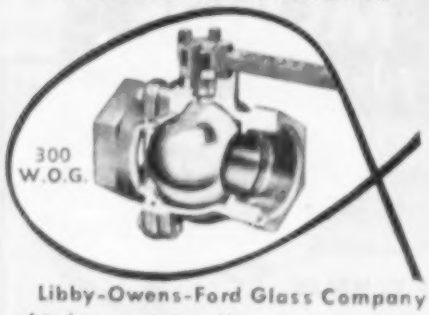
Gerrard Strapping can be used for small parcel post packages, heavy pallets or carload lots of steel pipe and plate. And Gerrard Round Steel Strapping costs about 40% less than any other metal reinforcement.

Write for a free copy of *Blue Book of Packaging*. And consult a Gerrard engineer about your packaging problems. His services are available free of charge. **Gerrard Steel Strapping Company, 4701 South Richmond St., Chicago 32, Ill.**

USS
**GERRARD ROUND STEEL STRAPPING**
**UNITED STATES STEEL**

▼ BREVITY—Identify by IEN - 9821 if you write the maker ▼

## operated 350,000 times with no maintenance



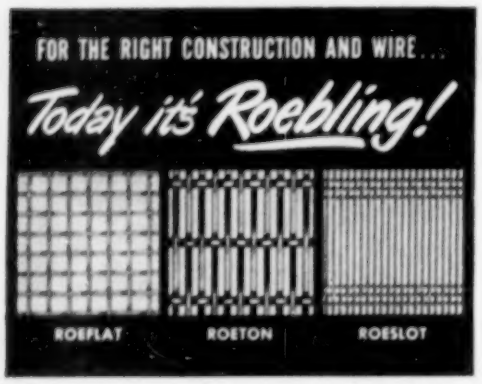

**Libby-Owens-Ford Glass Company obtains outstanding results with Rockwood Ball Valves - Only Valve to stay in service over a year**

Two 1½" Rockwood Valves were used on river water to mix plaster for the Grinding and Polishing line. Both Valves were worked 24 hours a day, 5 to 6 days a week, and operated approximately 1500 times a day, depending on line speed. Company official says, "Best service we could get from other makes of valves prior to this was 6 to 8 weeks."

Write for bulletin V-4 today.

**ROCKWOOD SPRINKLER CO.**
48 HARLOW STREET WORCESTER 5, MASS.

▼ BREVITY—Identify by IEN-9822 if you write the maker ▼




YOU'LL HELP SOLVE any screening problem with the *right* Roebling Wire Screen. (1) Choose Roeflat for maximum wearing surface and accurate sizing, (2) Roeton for increased screening capacity, (3) Roeslot for *topmost* screening capacity! But for *greatest* efficiency and economy, each of these constructions is available in Abrasc (high carbon steel), Roetemp (oil tempered steel) and in Stainless Steel!

Write today for Aggregate Screen Catalog W-903 and full information for improving your screening operations.

**WOVEN WIRE FABRICS DIVISION**
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

A CENTURY OF CONFIDENCE

▼ BREVITY—Identify by IEN-9823 if you write the maker ▼

*opens new fields for space-saving Printed Electronic Circuits*

Low-Loss XXXP Phenolite, Laminated Plastic, tightly bonded with copper foil to both surfaces is punched to desired shape. Required design is printed on surfaces, then etched, leaving unbedded coil.

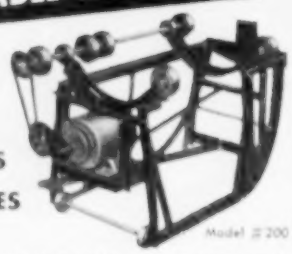
**Better FM Reception**—Typical application of Phenolite Printed Electronic Circuits—used in this new, high-efficiency tuner made by Variable Condenser Corp., Brooklyn, N. Y. Helps give stronger, clearer pictures.

This new high-quality insulating material with low electrical loss is commercial, space-saving and lowers fabr. costs. Write for samples and full information today.

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON DELAWARE
Offices in Principal Cities
Since 1873

▼ BREVITY—Identify by IEN-9824 if you write the maker ▼

**MORSE PORTABLE ROTATOR**



- MIXES
- CLEANS
- TUMBLES

Model # 200

A retractable caster frame offers simpler handling of containers with the Morse Rotator. Two Neoprene Drive Wheels prevent creeping. Four drive wheels give positive driving action and two idler wheels with Torrington Needle Bearings make the Morse Rotator a smoothly operating unit. Tipping lever included with each Rotator. Write for free folder showing complete Morse line.

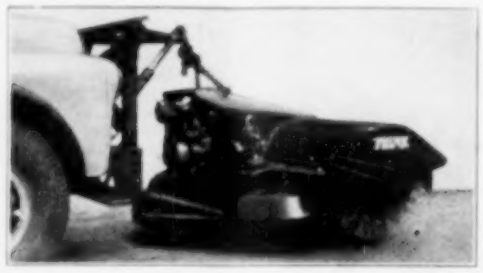
| | |
|---|---|
| Less motor and drive—Wt. 75 lbs. | $128.50 |
| Complete with motor—Wt. 155 lbs. | $198.50 |

**MORSE MANUFACTURING CO. INC.**
133 Dickerson Street Syracuse 3, N. Y.

▼ BREVITY—Identify by IEN-9825 if you write the maker ▼

**CLEANING . . Road sweeping brush with engine drive, operated by a truck**

Source: FRINK SNO-PLOWS INC.
203-229 Webb St., Clayton, N. Y.



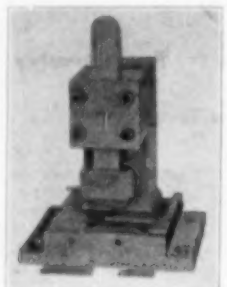
**Roto-Broom** Model F75 is a new engine-driven assembly with wheel mounting to position at the front of a motor-vehicle truck for road and yard cleaning application. The brush is 2½ ft. in diameter by 87 in. in width. It is mounted in dust-sealed ball bearings and connects through a ball-bearing drive shaft and speed reducer to its 5½ hp. Wisconsin air-cooled engine. Governor control holds rotation steady.

**Casters** support the brush and engine while a pusher-type assembly connects to the front of a truck. Water is sprayed by a small belt-connected pump to minimize dust from the operation. Assembly weight is 1,134 pounds.

▼ BREVITY—Identify by IEN-9826 if you write the maker ▼

**MARKING . . Stamp holding fixture mounts head with interchangeable type**

Source: M. E. CUNNINGHAM CO.
99 E. Carson St., Pittsburgh 19, Pa.



**Model SF100** is a new fixture in which a spring-backed stamp holder rides in a hinged head, positions vertically over a base on which the work can be mounted in adjustable arrangement. The stamp is struck with a hammer to make an impression. The spring returns it to up position. The fixture is available to order to meet specified requirements.

▼ BREVITY—Identify by IEN-9827 if you write the maker ▼

**STEELS . . Condensed selection data on stock grades of carbon and alloy steel bars**

Joseph T. Ryerson & Son Inc.
P. O. Box 8000-AA, Chicago 80, Ill.

**"Guide to Steel Selection"** titles new 4 page folder in which the company has condensed information on mechanical properties, characteristics and uses of bar steel available from stock. Grades include hot-rolled carbon steel, cold-finished carbon steel, heat-treated carbon and alloy steel.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-9828 if you write the maker ▼

**Titan**
**Brass and Bronze Products**
*"Quality Alloys since 1915"*

- Brass and Bronze Free Cutting Rods
- Brass and Bronze Forging Rods
- Bronze Welding Rods
- Extruded Brass Shapes
- Brass and Bronze Forgings
- Brass Pressure Die Castings

Titan Brass and Bronze Products are supplied in smooth or wire brush finish by authorized Titan distributors.

**Titan Metal Manufacturing Co.**
Bellefonte, Pennsylvania
Offices and Agencies in Principal Cities

▼ BREVITY—Identify by IEN-9829 if you write the maker ▼

▼ BREVITY—Identify by IEN-9830 if you write the maker ▼

Speer carbon brushes are popular with the men who make and maintain portable generators—and rightly so! They know that long-lived Speer brushes are constructed to meet widely-fluctuating load demands and provide excellent commutation with relative freedom from oxidation.

Speer's complete line of carbon brushes is backed by more than 50 years of experience. As a result, Speer brushes offer outstanding performance regardless of load conditions . . . highest current-carrying capacities . . . freedom from overheating, sparking and excessive wear and energy loss. Complete experimental and testing facilities are available for your design or maintenance problems.

**Speer**
**CARBON COMPANY**
**ST. MARYS, PENNA.**

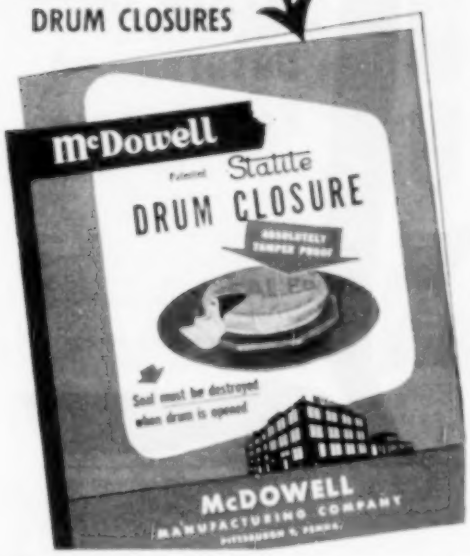
brushes • contacts • welding electrodes • graphite anodes • rheostat discs • packing rings • carbon parts

CHICAGO • CLEVELAND • DETROIT
MILWAUKEE • NEW YORK • PITTSBURGH

BREVITY—Identify by IEN-9832 if you write the maker

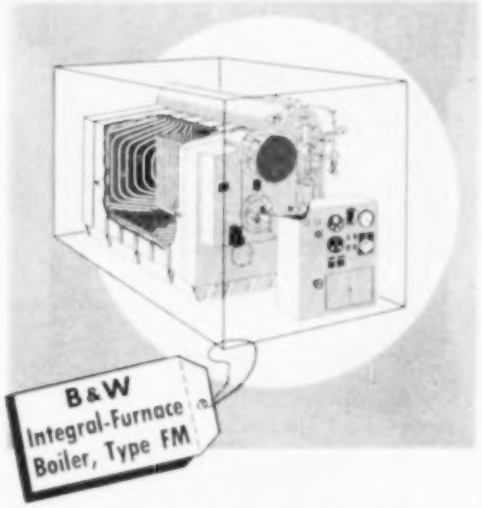
## Write for this new Bulletin TODAY

Get the facts on how you can save on DRUM CLOSURES




BREVITY—Identify by IEN-9833 if you write the maker

## now big boiler advantages "wrapped up" in NEW COST-SAVING B&W SHOP-ASSEMBLED UNIT




**Here at last** is the ideal combination for efficient, low-cost "packaged" steam: the new B&W Integral-Furnace Boiler, Type FM. Delivered fully-equipped for quick installation and operation, it combines the many advantages of factory-assembled boilers with service-proved economies that have made larger capacity B&W Integral-Furnace units such a heavy favorite for years among industrial plants and central stations.

**For small and medium size plants**, institutions, and commercial establishments will find this new Type FM self-contained unit offers the ultimate in low-cost heating and process steam-generation from 5,000 to 55,000 lb. per hr. at pressures to 250 psi. In large plants, too, several Type FM boilers may be more economical than a single "tailor-made" installation.

**Send for bulletin G-72**, detailing the many advantages of the new B&W Creation in low-cost steam generation. The Babcock & Wilcox Company, 85 Liberty Street, New York 6, N. Y.

*Helping Industry Cut Steam Costs Since 1867*

BABCOCK & WILCOX

G-312

BREVITY—Identify by IEN-9835 if you write the maker

## PRESS . . Foot or air operated will notch 5 by 5 in. in 16 gage steel

Source: J. F. KIDDER MFG. CO.
370 Colchester Ave., Burlington, Vt.

**Little Blacksmith** No. 50 is a new notching press that is available with foot or pneumatic operation in the two assemblies shown in the illustration. The press will cut a 5 by 5-in. square V-notch in 16-gage mild steel. Air operation calls for pressure from a shop line at 75 to 85 pounds. Weight is 130 lb. as illustrated.

BREVITY—Identify by IEN-9836 if you write the maker

## CUTTING . . Arc electrode to chamfer, cut, gouge, pierce metals

Source: ALL-STATE WELDING ALLOYS CO.
271-S Ferris Ave., White Plains, N. Y.

**No oxygen is required**

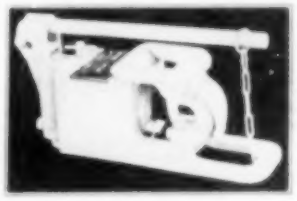
**All Purpose** cutting designates new coated arc electrode in the company's welding and cutting line for application by dc. or ac. equipment. It can be employed to cut aluminum, copper and nickel alloys, cast iron, steel, stainless steel. It will gouge and remove old welds, is employed directly in the electrode holder on the welding-machine cable.

**Four sizes** are $\frac{1}{8}$ to $\frac{1}{4}$ in., all 14 in. in length and packaged in lots of fifty. Current input is 140 to 300 amp. for the smallest, 400 to 650 amp. for the largest. The $\frac{1}{8}$-in. electrode will cut metals measuring $\frac{1}{8}$ in. or less in thickness. The $\frac{1}{4}$-in. size can be used on $\frac{1}{2}$ in. or greater thicknesses, fluidity of the metal and the melting temperature determining the width of the kerf required to rid the cut of molten metal and permit cutting to proceed under control of the operator.

BREVITY—Identify by IEN-9837 if you write the maker

## SHEARING . . Portable hydraulic tool for wire rope to $\frac{3}{4}$ in. in diameter

Source: PELL CABLE CUTTER CO.
820-A Sharon Bldg., San Francisco 5, Calif.



**Hydrashear** Model W is a new unit in the company's line of shearing tools for wire rope previously described IEN 5010-48. The new model rates to $\frac{3}{4}$-in. rope as compared to $1\frac{1}{2}$-in. in the initial design. It weighs 18 lb., measures 12 by $3\frac{1}{2}$ by 6 inches. The tool latches into position on a run of rope and its shear blade is moved forward by operating a pump handle. The blade retracts when a valve is opened in the cylinder.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50*

BREVITY—Identify by IEN-9838 if you write the maker

## Simple as A B C

Handle heavy reels easily and safely; remove wire or cable from top or bottom, front or back of reel with

## ROLL-A-REEL

Low slanted front and positive front lock insure quick loading or unloading.

Eliminate jacks and cumbersome handling.

| | |
|---|---|
| Style A: 2,000 lbs. cap. | 37.50 |
| Style B: 4,000 lbs. cap. | 75.00 |

f.o.b. Cincinnati

Carried easily to reels, job or storage. Sold through wholesalers only.

WRITE TODAY FOR DETAILS

## ROLL-A-REEL

327 WEST FOURTH STREET
CINCINNATI 2, OHIO

BREVITY—Identify by IEN-9839 if you write the maker

## $1907 G-E capacitor investment saves $2700 a year

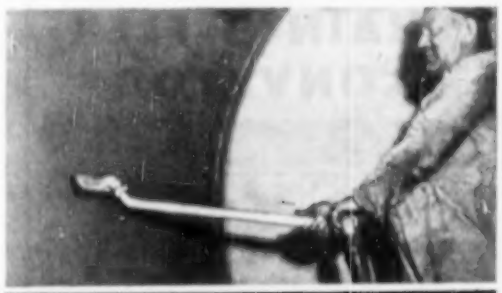
Completely paid off in eight months—that's the experience the Empire Plow Company of Cleveland, Ohio, had when they installed 240-kvar of General Electric capacitors.

The power factor rose from a money-wasting 61% to better than 91% after the capacitor installation. This improvement in power factor meant real savings in the power bill. The entire installation—capacitors, switches and labor—cost $1907. The savings have been $2700 in the first year alone.

A quick check may show that you can do the same—especially if your power factor is below 85%. Also, capacitors will usually improve voltage conditions, allow for expansion of your electrical load, and relieve feeders and transformers of overload. Call your nearest G-E Sales Office or write for information on how capacitors can help you. Address *Sec. C407-197, Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

BREVITY—Identify by IEN-9840 if you write the maker



## TANKS CLEANED WITH VACUUM

This illustration, obtained by pointing the camera through the manhole of a large tank, shows how plastic lined tanks are cleaned with the Spencer 1½ HP portable just before delivery. The Spencer Portable can be rolled to the work. The dirt can is on casters and can be emptied in a few seconds. Spencer equipment is also used to remove liquids from tanks, and to provide pressures for tank testing.

356-P

150 USES FOR VACUUM...ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD

BREVITY—Identify by IEN-9841 if you write the maker

## BOOK-OF-THE-MONTH every month!

The *right* roof specification at your fingertips every time . . . that's what this new edition of Ruberoid's Built-Up Roof Specification Book provides. Whether it's the special treatment required for a Garden roof or Parking Space roof . . . the latest in flashing details for low parapet walls . . . or a question about choice of base felts . . . you'll find every answer you need in this comprehensive file. Doubly indexed and tabbed for most convenient reference, it's a book you'll reach for as often as roof problems occur. A note on your letterhead will bring your free copy to you promptly.

The RUBEROID Co. built-up roofings
EXECUTIVE OFFICES: 500 Fifth Ave., New York 18, N. Y.
Divisional Sales Off.: Baltimore, Md., Round Brook, N. J., Chicago, Ill., Dallas, Tex., Erie, Pa., Minneapolis, Minn., Millis, Mass., Mobile, Ala.

BREVITY—Identify by IEN - 9842 if you write the maker

# DIRT

We *guarantee* Cuno MICRO-KLEAN Fluid Filter to remove . . . from almost any fluid . . . all solids larger than specified, plus a large proportion down to 1 micron size.

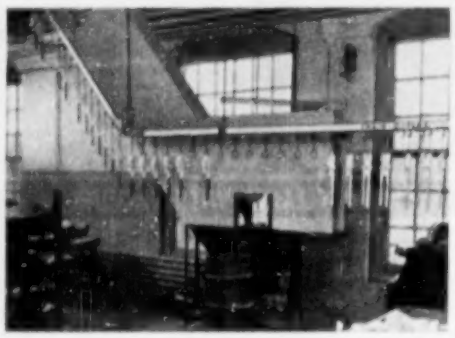
Ask for MICRO-KLEAN Bulletin. Cuno Engineering Corp., 6924 South Vine St., Meriden, Conn.

CUNO *Fluid Conditioning*

Removes More Sizes of Solids from More Types of Fluids

BREVITY—Identify by IEN - 9843 if you write the maker

# CHAIN-O-FLEX CONVEYOR



- The flexible chain conveyor with all adjustable corners
- Sold as a packaged unit to be easily assembled by any mechanic

Write for 8 page illustrated catalog

**INDUSTRIAL EQUIPMENT CO.**
321 N. ADA ST. CHICAGO 7, ILL.

BREVITY—Identify by IEN - 9844 if you write the maker

# YES . . . YOU CAN HEAR IN NOISY SPOTS

USE Burgess-Manning ACOUSTI-BOOTHS

You can hear easily . . . talk comfortably . . . in a Burgess-Manning Acousti-Booth. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private." Airy, no door . . . easily moved . . . sturdy construction.

Mail Coupon for FREE BULLETIN

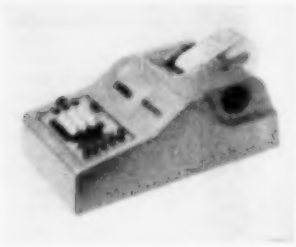
BURGESS MANNING COMPANY
743-A East Park Avenue, Libertyville, Illinois
Please send booklet describing Burgess-Manning Acousti-Booths.

Name _____
Firm Name _____
Street-City _____

BREVITY—Identify by IEN - 9845 if you write the maker

## CALCULATING . . Motor driven machine adds, subtracts, multiplies, divides

Source: OLIVETTI CORP. OF AMERICA
580 Fifth Ave., Room 3206, New York 19, N. Y.



**No. 14** designates printing-calculator developed in the company's European plant and sold in Europe over a period of time. The machine is now available in the United States and is backed by adequate servicing facilities and spare parts stocks. It performs the four operations of addition, subtraction, multiplication and division, calculates and prints credit balance.

**It provides** a supplementary multiplication keyboard for short-cut high-speed action, prints multipliers and quotents for quick checking, prints identifying numbers without including them in a calculation. It adds symbols to given key numbers for identification. It locks to prevent wrong operation and then clears quickly.

**Bulletin,** 4 pages, "Olivetti '14' Printing Calculator," illustrates and describes the machine and provides instructions for its operation. Sample calculations are presented on an insert.

BREVITY—Identify by IEN - 9846 if you write the maker

## MAGNET . . Alnico permanent unit picks ferrous parts from plating tank

Source: ERIEZ MFG. CO.
1303 E. 12th St., Erie, Pa.

**Stainless steel** tube encloses an Alnico permanent magnet for a part of its length and is mounted between neoprene rollers at its two ends in this new Tank Magnet. It is carried in a stainless steel fork to be lowered into a plating or pickling tank to recover small ferrous pieces from the tank bottom. These pieces adhere to the magnetized portion of the tube. They are wiped to the non-magnetized end to fall free when a washer is moved from one end to the other along the tube.

**Overall dimensions** are 16¼ or 21¼ in. in width, 48 in. in length. List price is $35.50 or $41.50.

BREVITY—Identify by IEN - 9847 if you write the maker

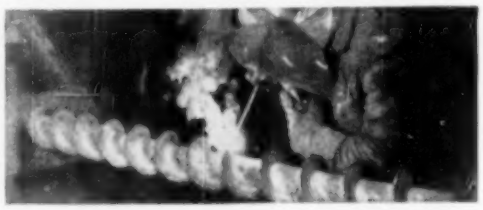
## WELDING . . Color sound film on oxy-acetylene welding and cutting

International Acetylene Association
30 E. 42nd St., New York 17, N. Y.

**Showing time** is 20 min. for new 16 mm. motion picture, "The Oxy-Acetylene Flame—Master of metals." The film describes how calcium carbide and acetylene are produced, properties of the oxy-acetylene flame, applications in welding and cutting metal, operation of torches. List price is $70.78.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

BREVITY—Identify by IEN - 9848 if you write the maker



## How to save 35¢ on each electrode dollar and get longer hardsurfacing wear

By using Lincoln hardsurfacing you can cut your electrode costs an average of 35¢. That's because Lincoln hardsurfacing electrodes not only sell for approximately one-third less than other makes but give you longer wear, according to user reports.

From Lincoln's complete line, you are sure also of getting the correct hardsurfacing material for every job. Each of the 12 sub-developed electrodes has been designed to fulfill a specific range of service. Thus, there is no need for any compromise between hardness for wear resistance and toughness for impact.

Why not investigate these money-saving advantages now. Write for your free, handy Lincoln bulletins on hardsurfacing.

THE LINCOLN ELECTRIC CO.
Dept. 125, Cleveland 1, Ohio
Sales Offices and Field Service Shops in All Principal Cities

LINCOLN

BREVITY—Identify by IEN - 9849 if you write the maker

# Don't take less than a *Leach* for Unsurpassed Performance

LEACH RELAY CO. offers a wide range of control relays of standard types; and stands ready to link new designs to your specific needs. Highest standards of engineering, materials and workmanship assure long, safe, efficient, trouble-free service.

*FOR BETTER CONTROLS THROUGH RELAYS—CONTACT LEACH*

**LEACH RELAY CO.**
5915 AVALON BOULEVARD • LOS ANGELES 3, CALIF.
*Representatives in Principal Cities of U.S. and Canada*

BREVITY—Identify by IEN - 9850 if you write the maker

# THERE'S NO BETTER WAY TO PACKAGE DELICATE OR PRECISION PARTS than in *Clearsite* PLASTIC SELLING CONTAINERS

Drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others can be packaged for perfect visibility and the utmost in protection in the container that's featherlight (⅙ the weight of glass) • shatterproof • flexible or rigid • permanently printed • clear or opaque in all colors.

*Write for your FREE copy of the new, fully illustrated brochure that points up the many uses and advantages of Clearsite Plastic SELLING Containers.*

*CLEARSITE is made only by*
**CELLUPLASTIC**
CORPORATION
32 Avenue L • Newark 5, New Jersey
*America's #1 Source for Plastic Containers Established 1919*

Milwaukee • Los Angeles • Detroit • New Haven • Cleveland • Denver • Minneapolis • Cincinnati • Atlanta • Houston • Chicago • Jacksonville • Ft. Worth • St. Louis • San Francisco • Jackson • Richmond • Phoenix • Seattle • Portland • Louisville • Montreal • Toronto

BREVITY—Ideally by IEN - 9852 if you write the maker

## The Spotlight's on "Specials" BY LAMSON!

Of course you think of Lamson for headed fasteners. But did you know that Lamson produces precision Screw Machine Products for many of the country's best known "blue ribbon" manufacturers? Within this one organization are modern facilities for hot and cold heading, machining, grinding, broaching, bending, flattening, punching, drilling, heat-treating and plating.

THE LAMSON & SESSIONS COMPANY
1974 West 85th Street, Cleveland 2, Ohio

**Lamson & Sessions**
"One Dependable Source for All Fastener Needs"

BREVITY—Ideally by IEN - 9853 if you write the maker

## Eliminate errors in computing time with CALCULAGRAPH

**—AUTOMATICALLY FIGURES JOB TIME!**

ACCURATELY **COMPUTES** AND **PRINTS** { STARTING TIME / FINISHING TIME / TOTAL TIME

### HANDLES ANY NUMBER OF CARDS IN ANY SEQUENCE

One Calculagraph can figure and record the time for an entire shop or large production department. This precision-built instrument provides multiple recording on any number of cards regardless of sequence. Calculagraph subtracts lunch and other non-productive periods automatically and can even be set to compute dollars and cents, if desired, where cost per minute is a factor.

### PRINTS ACCURATE RECORDS EASILY FILED FOR REFERENCE

Calculagraph is the most economical means of obtaining completely accurate job time for computing costs. Easy-to-read printed cards can be filed for ready reference when estimating or for check-backs on time study. Now in use in thousands of plants and shops, large and small. Call or write Dept. C for literature, today!

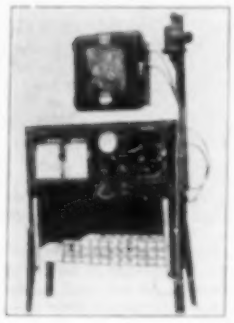
**CALCULAGRAPH**
**COMPANY • INCORPORATED**
HARRISON • NEW JERSEY

SINCE 1892 — STANDARD EQUIPMENT IN THE TELEPHONE INDUSTRY THROUGHOUT THE WORLD

BREVITY—Ideally by IEN - 9855 if you write the maker

## CONTROL . . Electronic equipment governs Bessemer converter operation

Source: WHITING CORP.
15629 S. Lathrop Ave., Harvey, Ill.



**New design** of the company's electronic flame control equipment to govern the operation of a Bessemer converter is available in a number of models, each for a specific purpose. Overall the equipment enables an operator to determine the silicon, manganese and carbon periods, warns him ahead of time of impending manganese boil and establishes the correct end point to eliminate excess iron oxide.

**Model MM550** is a basic instrument without signals that mounts a flame recorder to chart the reduction of silicon, manganese and carbon, a pressure recorder for the blower air, an indicating air gage, a sensitivity amplifier and turn-down adjustment to compensate for burning away of the converter cone.

**Model MM650**, illustrated, adds a signal cabinet to the basic control to indicate when the blowing cycle has been completed or has reached a given end point to fix carbon content in the steel being processed.

**Model MM650-H** is wired to measure a fixed time interval between start and stop of the blowing action.

**Model MM650-C** times the progress of the carbon period, sounds an alarm or shuts down the process to retain a desired amount of carbon in the steel.

**Model MM650-M** permits the operator to complete removal of the carbon and sounds an alarm when all has been burned out. Then an alarm sounds and remains audible for a given interval to close down the cycle manually and to call the crane to stand by for steel.

BREVITY—Ideally by IEN - 9856 if you write the maker

## FUSE . . Open dropout cutout made in 5.2 and 7.8 maximum ratings

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

**Two new units** have been added to the company's line of 100-amp. open-type cutouts to extend the previous NEMA standard interrupting rating of 2000 amp. to a new maximum of 5,000 amperes. Standard units now in service can be converted to the heavy-duty design by replacing the standard fuse holder with the new unit shown in the center of the illustration. It is identified by its light tan color.

**The new design** features close coupling of fuseholder and insulator, sealed design at the top of the holder, the use of rubber bumpers and a coil shock-absorbing spring, and an arrangement that prevents birds and small animals from bridging the insulator and blowing the fuse. Time delay of five or six cycles eliminates arcing at the contacts.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Ideally by IEN - 9857 if you write the maker

## Handle Your Materials with load-floating cost-cutting Colson Trucks

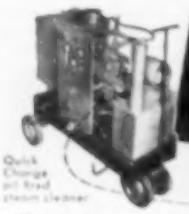
Colson Drum Truck model 2405S-45, has ballbearing 10" double steel disc type wheels, demountable cushion rubber tires, rugged lightweight tubular steel frame. Climb hook locks semi-automatically.

Write Today For Free 56 Page Catalog

More stuff handled with less effort and cost when your plant is equipped with Colson trucks. Hand trucks, barrel and drum trucks, platform trucks, dish trucks, Lift-Jack Systems, dollies, wheels and casters—all designed for ease of movement, floor saving, extra durability. Less "push" means popularity with workers, profits for you. Write us or consult your phone book for the local Colson office.

**THE COLSON CORPORATION**
ELYRIA, OHIO
CASTERS • LIFT JACK SYSTEMS • INDUSTRIAL TRUCKS

BREVITY—Ideally by IEN - 9858 if you write the maker




## Multi-Purpose Thermostat
*Controls 90 psi Steam Pressure Within ±4 psi*

Yes, THERMOSWITCH thermostats maintain a 90-pound psi pressure thermostatically within plus or minus 4 psi — for portable steam cleaners made by Quick Charge Inc. These powerful cleaners convert cold water into steam within two minutes, at the rate of 80 gallons per hour. Due to the sensitive, dependable response of THERMOSWITCH units, steam pressure in the cleaners is rigidly controlled thermostatically.

THERMOSWITCH thermostats are unique. Their activating element is the single-metal shell that instantaneously expands or contracts with temperature change, making or breaking the electrical contacts enclosed within it.

Used in a wide variety of applications throughout industry, these THERMOSWITCH controls can help you, too.

FENWAL INCORPORATED
710 Pleasant Street, Ashland, Mass.
111 S. Burlington Ave., Los Angeles 4, Cal.
TEMPERATURE CONTROL ENGINEERS
Write for Bulletin

**Fenwal**

**THERMOSWITCH**
The Precision, Multi-Purpose, Industrial Thermostat
SENSITIVE . . . *but only to heat*

BREVITY—Ideally by IEN - 9859 if you write the maker

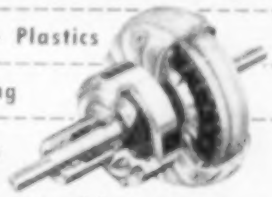
## IMPROVE your handling of oils . . . . . these 5 ways

HERE'S A NEW AND BETTER WAY to handle oil and other commercial liquids. This low cost Tokheim pump means added efficiency, economy and safety in your plant. Unique design. Pumps on both back and forth strokes, yet has a single diaphragm. Self-priming. Easy to operate and service. Available in several models for drum or underground tanks—with hose or spout outlet. See your Tokheim representative or write factory direct.

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
1654 WABASH AVENUE, FORT WAYNE 1, IND.
Factory Branch: 1809 Howard St., San Francisco 3, Calif.

BREVITY—Ideally by IEN - 9860 if you write the maker

Textiles • Printing • Paper-Making • Wire-Making • Plastics Chemical Mixing



## Solve Your Winding Problems Forever

The revolutionary new Twin Disc HYDRO-WYND combines a hydraulic coupling with a planetary gearset to compensate for axle speed variations in winding operations. This unit maintains a *predetermined linear speed and tension*, constantly and automatically, *throughout the entire winding cycle* with no manual or other adjustments.

All jerkiness is eliminated in the winding cycle. The HYDRO-WYND permits the prime mover to accelerate to the right amount of working torque. As axle torque requirements vary, the planetary gearset and the hydraulic coupling react against each other to produce an output torque which matches predetermined requirements for constant tension and constant lineal speed.

Available for a wide variety of tension and speed requirements on all types of jobs up to 7.5 hp. Write today for complete details—and solve your winding problems forever.

*Clutches & Hydraulic Drives*

**TWIN DISC**

TWIN DISC CLUTCH COMPANY, RACINE, WISCONSIN

BREVITY—Identify by IEN-9861 if you write the maker

Ramp in "Kettle room" of large New Jersey manufacturing plant.

# No slipping hazard

## ON THIS SURE-GRIP ferrox SURFACE

Problem . . . Soap plus moisture caused a very slippery condition on this wooden ramp in the "Kettle room."

Solution . . . FERROX abrasive, non-slip compound, troweled onto the ramp surface, gave a safe grip to busy feet—made manuevering of hand trucks easier and surer.

FERROX is easy to apply . . . Simply trowel on danger spots . . . One gallon covers 40 square feet . . . Dries over night . . . Firmly embedded abrasive particles provide good traction and sure footing under wet, dry or oily conditions.

For free literature illustrating uses and application data, write or phone Bob Easty.

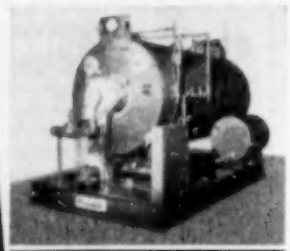
*Reg. U. S. Pat. Off.

**AMERICAN ABRASIVE METALS CO.**
468 COIT ST., IRVINGTON, N. J.
Phone: ESsex 3-7060

BREVITY—Identify by IEN-9862 if you write the maker

# LOW-COST POWER & HEAT

FOR:
Bottling Works
Chemical Plants
Dairies
Food Processors
Hosiery Mills
Institutions
Meat Packers
Metalworking Plants
Plastic Mfrs.
Public Buildings
Textile Mills
Etc.



**ORR & SEMBOWER Powermaster® STEAM GENERATORS**

- High efficiency cuts fuel costs as much as 40%
- Packaged design saves excessive installation costs
- Automatic operation frees engineer for other duties
- Mounted on steel base—no bricking required
- Delivered fully wired and factory tested
- Widespread service by factory trained men

High and low-pressure units—15 to 500 HP—for light oil, heavy oil, gas or combination gas-oil firing. Free catalog mailed promptly—address:

**ORR & SEMBOWER, INC.**
860 Morgantown Road, Reading, Pa.

BREVITY—Identify by IEN-9863 if you write the maker

MANUFACTURERS LARGE OR SMALL

# INDUSTRIAL WHEELERS

MODERN MACHINERY

. . . SERVE THEM ALL!

MM Industrial Wheelers have extra CAPACITY to do the work of large expensive equipment in a fraction of the time . . . FLEXIBILITY for loading, shaving, and dozing or drawbar work . . . UTILITY on maintenance jobs that include sweeping and mowing . . . ADAPTABILITY of design to fit a complete selection of attachments to handle all jobs and to operate under all working conditions.

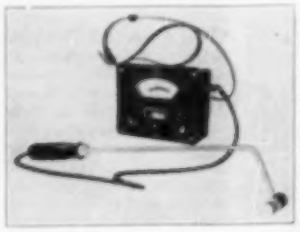
Get complete facts on the MM Industrial Wheeler best suited to your job.

**MINNEAPOLIS-MOLINE**
MINNEAPOLIS 1, MINNESOTA

BREVITY—Identify by IEN-9864 if you write the maker

## TESTING . . Tin content indicator reads percent tin in alloy with lead

Source: WHEELCO INSTRUMENTS CO.
845-9 W. Harrison St., Chicago 7, Ill.



**Model** 2872 is a new Tin Content Indicator for use by manufacturers employing quantities of solder as one example. The indicator employs a pyrometer in connection with a sensing head in which a sample of the molten lead alloy is taken.

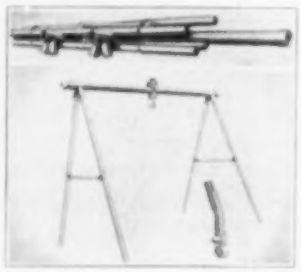
**Operation** is based on the different temperature points at which lead alloys containing different amounts of tin will pass through in transformation between liquid and solid state. To make the reading the sensing head contains a lead sample sealed in one of two cups with the second cup open to pick up a sample of the alloy to be tested.

**List price** is $135. Weights are about 28 ounces for the meter and 14 ounces for the sensing unit. The meter is enclosed in a dustproof housing and has a wide mirrored scale calibrated in divisions from 0 to 7 per cent tin.

BREVITY—Identify by IEN-9865 if you write the maker

## CRANE . . Collapsible gantry frame with hook equipped trolley rates 2 ton

Source: WISE ENGINEERING CO.
72 Chapel St., Newark 5, N. J.



**Overall length** is 9 ft. and height to the top of the 3-in. horizontal top pipe is 81 to 114 in. in four available heights of this new portable gantry crane. The supporting legs are made of 2-in. pipe. The horizontal end braces are 1-in. pipe. Finish is in gray paint. The assembly can be taken apart for storage or moving and made into a bundle measuring 1 by 1 by 9 feet.

**Removable boots** with 4-in. casters can be added to specification for applications where this added portability is desired. The unit can be assembled in ten minutes by two men.

BREVITY—Identify by IEN-9866 if you write the maker

## STEELS . . Fabricating and finishing data in bulletin on company's galvanized Bonderized sheet

Armco Steel Corp.
701 S Curtis St., Middletown, Ohio

**Instructions** given in new 12-page bulletin, "In the Shop with Armco Cold-Rolled Paintgrip", cover forming, welding, soldering, cleaning, painting. There is a table of spot welding data in the welding section. Suggested drawing lubricants, cleaning materials and paints are listed by name and maker.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-9867 if you write the maker

# RIGHT AT THE SOURCE OF WASTE

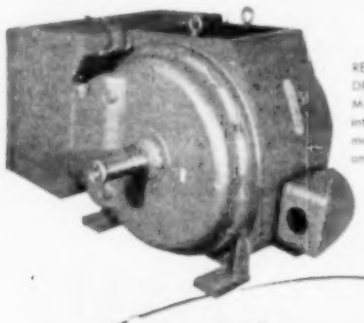
For this 15 hp motor, power losses are corrected where it does the most good—*at the source*. A 1 kvar Sprague Power Factor Correction Capacitor across the terminals reduced reactive circuit current flow through transformers and wiring to a bare minimum . . . slashed power bills noticeably.

Sprague Unit-Cell Capacitors make it unnecessary to buy even one kvar more than you need. Write for the Sprague free guide of cost-saving suggestions, No. 50B.

**SPRAGUE** SPRAGUE ELECTRIC COMPANY NORTH ADAMS, MASS.
PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT

BREVITY—Identify by IEN-9868 if you write the maker

BREVITY—Identify by IEN-9869 if you write the maker



RELIANCE DIRECT-DRIVE MOTOR with integrally-mounted blower and filter.

A DESIGN TO REMEMBER

Reliance's new direct-drive motor powers Lima-Hamilton's "38" series presses like this.

*. . . another example of the application of*

## electrical insulating materials

*made with*

## FIBERGLAS* Yarns

*to help achieve resistance to hot spot temperatures*

To help resist hot spot temperatures, Reliance Electric & Engineering Company, Cleveland, Ohio, uses insulating materials made of *Fiberglas* glass yarns in this direct-drive, high torque motor.

Especially designed by Reliance for Lima-Hamilton, this new motor provides increased operating speed and easier control for Lima-Hamilton's "38" series triple-action stamping presses. But a motor with no clutch or flywheel, directly connected to a huge forming press must deliver peak load from 2 to 10 seconds. That means fast, high temperature rise . . . the need for quick heat dissipation . . . and Class B insulation made of Fiberglas glass yarns!

Fiberglas glass insulating materials also are basically resistant to moisture, most acids and oils, and corrosive vapors. Their light weight, plus great tensile strength make them ideal for the design of smaller, more compact electrical units.

For your products, specify insulating materials made with Fiberglas glass yarns.

A NEW MANUAL OF FIBERGLAS GLASS-BASE MATERIALS IS READY NOW. SEND FOR YOUR COPY.

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

OWENS-CORNING FIBERGLAS Yarns

OWENS-CORNING FIBERGLAS CORP. • ELECTRICAL SALES DIVISION
Dept. 920, 16 East 56th Street, New York 22, N. Y.

▼ BREVITY—directly by IEN - 9871 if you write the maker ▼

# *Here's* BIG HELP IN TERMINAL WIRING!

*The New* **JONES FANNING STRIP**

Connections are made through Fanning Strip, on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

**Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.**

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction. Brass terminals, cadmium plated. Heavy bakelite mounting.

Send for complete data on this new basic improvement!

Jones — HOWARD B. JONES DIVISION, CINCH MANUFACTURING CORPORATION, CHICAGO 24, ILLINOIS, SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▼ BREVITY—directly by IEN - 9872 if you write the maker ▼

# CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

## SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

## BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO — Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

▼ BREVITY—directly by IEN - 9874 if you write the maker ▼

## SIGNALING . . Photoelectric unit signals excessive smoke in a chimney

Source: GENERAL POWER PLANT CORP.
381 Fourth Ave., Room 1223, New York 16, N. Y.

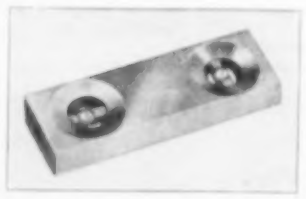
**A lamp unit** and an alarm unit, the latter shown in the illustration, make up a new assembly of photoelectric signaling equipment to ring an alarm bell when excessive smoke is present in a flue or chimney. The two units mount on opposite sides of the chimney by application on a length of 1½ in. pipe passing through the chimney. They observe each other and the interior of the chimney through holes cut opposite the housing centers.

**The housings** measure 6 by 6 by 6 inches. Operation is on 110-volt 60-cycle ac. The alarm bell is a 4-in. unit. The lamp unit is equipped with a 75-watt 120-volt ac reflector spot lamp and built-in resistor. The alarm assembly includes the photo tube, associated equipment and a relay. List price is $90.

▼ BREVITY—directly by IEN - 9875 if you write the maker ▼

## GAGE . . Two way level mounts two bubble tubes at 90 degrees

Source: BACHARACH INDUSTRIAL INSTRUMENT CO.
7002 Bennett St., Pittsburgh 8, Pa.



**Cross-Test** designates new two-way level in which two bubble tubes are set at 90 deg. with each other but in the same horizontal plane in an aluminum housing that measures 4 by 1¼ by ⅝ inch. Out-of-level to ⅛ deg. reads ⅛ in. in each tube.

▼ BREVITY—directly by IEN - 9876 if you write the maker ▼

## WOOD WORKING . . Portable saw, universal motor, 6 and 8 in. blades

Source: PORTER-CABLE MACHINE CO.
1712-16 N. Salina St., Syracuse 8, N. Y.

**Models A6 and A8** are two new portable electric saws with die-cast aluminum housings, universal 110-volt motors, 5,500 rpm. three speed and calibrated adjustments for angle setting to 45 degrees. One takes a 6-in. circular blade for loaded speed of 3,250 rpm. The other drives an 8-in. blade at 2,800 rpm. Shafts are mounted on ball bearings. The motor connects through helical gearing.

**Control** centers at a trigger switch in the handle. Power connects through a 10-ft. cord and plug. Overall dimensions are about 8 by 10 by 9½ in. for the small unit, 8 by 12 by 10½ in. for the large one. Weights are 12 and 14 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREVITY—directly by IEN - 9877 if you write the maker ▼

HERE'S YOUR *Complete* STEAM PLANT

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability • 17 sizes from 20 to 500 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

*For complete details write for catalog 217.*

Superior STEAM GENERATORS

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Rodney, Kansas, Pa.
Executive Offices: Times Building, Times Square, New York 36, N. Y.

▼ BREVITY—directly by IEN - 9878 if you write the maker ▼

Sylphon Temperature-Pressure Switch No. 539

## AUTOMATIC SAFETY CONTROL FOR ENGINES

YOU CAN count on safer engine operation with this Sylphon control. It shuts off internal combustion engines or sounds an alarm if water jacket temperature goes above, or lube oil pressure goes below safe limits. Vapor-proof construction. Adjustable pressure and temperature ranges. Compact, rugged. Also available for temperature or pressure only. Write for Bulletin TN-817.

**FULTON SYLPHON** DIVISION

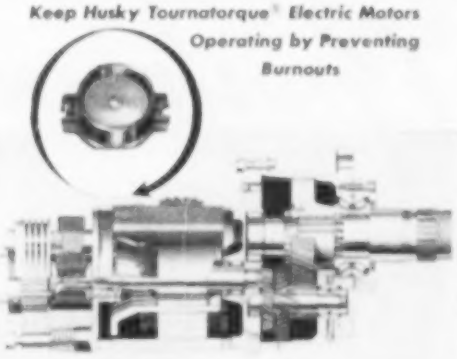
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.

*Temperature Controls • Balance Devices • Balance Assemblies*

▼ BREVITY—directly by IEN - 9879 if you write the maker ▼

## KLIXON PROTECTORS

*Keep Husky Tournatorque® Electric Motors Operating by Preventing Burnouts*

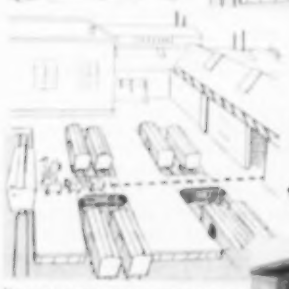


The Tournatorque motor, illustrated, provides *power at the point of action* in the famous R. G. LeTourneau earth-moving and construction equipment. Used in the electric controlled equipment, it simplifies operations by supplying the actuating power on LeTourneau equipment.

To assure continuous power without motor burnouts, LeTourneau Engineers use a built-in Klixon Protector in the Tournatorque motor. The reason — they know the value of power's motor protection . . . know that Klixon Protectors keep constant watch over the motor, always protecting it from possible burnouts which might occur from overloads. Regardless of the type of motor-driven equipment you use, specify and insist that your motor manufacturer supplies you with motors equipped with Klixon Protectors.

SPENCER THERMOSTAT *Division of Metals & Controls Corp.* KLIXON
210 Forest Street, Attleboro, Mass.

▼ BREVITY—directly by IEN - 9880 if you write the maker ▼



Be Practical — Use a **WHITING** CROSS-OVER BRIDGE

You can save money — you can save time, and you can speed up materials movement from dock-to-dock with Whiting Cross-Over Bridges. Designed in three general types (Overhead Rise—Ground-Level—and Roll-Away).

Write for Bulletin MS-C-400 and learn how these practical Cross-Over Bridges fit your materials-movement requirements. The Whiting Corporation, Harvey, Illinois.

▼ BREVITY—Identify by IEN - 9881 if you write the maker ▼

## From the Micrometer . . . came an IDEA!

**The NEW 1218 HYDRABRASIVE Surface Grinder**

The same principle of rotating a screw which gives the micrometer its accuracy is built into the NEW 1218 HYDRABRASIVE Surface Grinder — precision power feed by rotating a screw with a hydraulic motor. Both hand and power cross-feeds provide the *same* smoothness and strength, and the *same* accuracy of duplication.

*Other features:* wide cross travel (12") with moderate table length (18") — super-powered 12" wheel driven by a 3HP motor — table speed adjustable from 6' to 90' per min. with ¼" cross-feed in 1/5 of a second — unit design of head, spindle, and spindle housing; hydraulic motor and cross-feed control; table control and valves, pump motor and tank — saddle ball ways for transverse adjustment. Write ABRASIVE MACHINE TOOL CO., 18 DUNELLEN ROAD, EAST PROVIDENCE 14, R. I. Distributors Throughout The World.

**ABRASIVE** ACCURACY QUALITY PRODUCTION — *Abrasive Quality Is Reflected In the Finish of Your Product*

▼ BREVITY—Identify by IEN - 9882 if you write the maker ▼

# Graham

**THE FINEST VARIABLE SPEED DRIVE MADE**

**ALL SPEEDS FROM TOP TO ZERO AND REVERSE**
SIZES UP TO 3 H. P.

Check the advantages that you'll find in only the Graham Variable Speed Drive. Then, to provide the speed control that will make your fine machine even better, investigate Graham.

***ALL SPEEDS FROM TOP TO ZERO,*** and reverse if desired.

***"ON THE MARK" SPEED.*** No belts, tubes, friction discs or other perishable parts.

***EXTREME COMPACTNESS.*** The only variable drive built as a streamlined extension of a standard induction motor —or available without motor.

***PROVED PERFORMANCE.*** Standard equipment on leading machine tools, office equipment, offset presses, feeders, inspection machines, white printers, etc.

***LOW COST.*** Does the job better, for less money, than less efficient, more costly drives.

**PROMPT DELIVERY ON ALL STANDARD MODELS**
**MAIL THE COUPON OR READER SERVICE CARD**

GRAHAM TRANSMISSIONS, INC.
Dept. IEN, 3754 N. Holton St., Milwaukee 12, Wisconsin

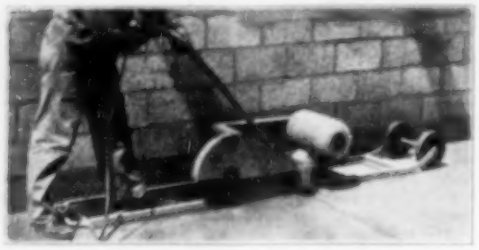
Gentlemen: Please send your latest catalog on Graham Variable Speed Drives up to 3 H.P.

Company .....
Name ..... Title .....
Address .....
City ..... Zone ..... State .....

▼ BREVITY—Identify by IEN - 9884 if you write the maker ▼

## CUTTING . . Abrasive disc machine for concrete and composition materials

Source: MARTIN FIREPROOFING CORP.
P. O. Box 27, Keamore Station, Buffalo 17, N. Y.

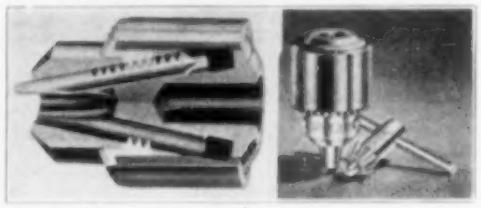


**Creeper** Concrete Saw is a new machine in which a pivoted head carries a disc spindle and belt-connected 1½-hp. dust-proof motor for operation on 110 or 220-volt 60-cycle single-phase ac. The spindle takes a 14-in. abrasive disc with depth capacity to 5 in. when new. The head rides in a channel frame that is positioned on the ground and is equipped with wheels at one end to assist in removing or repositioning. Dry or wet operation can be specified.

▼ BREVITY—Identify by IEN - 9885 if you write the maker ▼

## CHUCK . . Key operated drill unit combines gear and nut in single part

Source: SUPREME PRODUCTS CO.
2220-24 S. Calumet St., Chicago 16, Ill.



**Sure-Lock** (trade names) new drill chuck with capacity to ¼ in. in which the key-operated gear and jaw-operating nut is a single part. The three jaws ride in guides to close in or retract when the nut is turned. The chuck parts are made of alloy steel, heat treated and ground.

▼ BREVITY—Identify by IEN - 9886 if you write the maker ▼

## GOVERNMENT . . Reference manual of United States Government departments and functions

Superintendent of Documents
Government Printing Office, Washington 25, D. C.

**Revised 1950-51 edition** of the "United States Government Organization Manual" is a 650-page handbook published by the National Archives and Records Service of the General Services Administration. It contains official statements by each Government agency including executive, legislative and judicial branches. Each is described as to organization and functions, its legal authority outlined, its key officials listed, addresses given. List price is $1. Please direct your request direct to the Superintendent of Documents.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . . Ratings . . . See Page 50*

▼ BREVITY—Identify by IEN - 9887 if you write the maker ▼

**Test Abrasion Resistance**

*Taber*

**ABRASER** Model 140

**New instrument to test wear resistance of fabrics, protective coatings, plating, plastics, rubber, etc.**

**Incorporates proven rotary rub-wear action of dual abrading wheels, simulating wear under actual service conditions.**

**Write for new literature.**
**TABER INSTRUMENT CORP.**
**107 Gaundry Street**
**North Tonawanda, N. Y.**

▼ BREVITY—Identify by IEN - 9888 if you write the maker ▼

*There's nothing to compare with it!*

**CM CYCLONE**
LIGHT WEIGHT—HEAVY DUTY
*High Speed* CHAIN HOIST

**62% Less Weight.** Of Alcoa Aluminum Alloy, the 1 ton capacity weighs only 35 lbs. Carry it anywhere with ease. Designed to stand the "gaff" of maintenance work. **42% Fewer Parts.** Long service life. **96% Efficient.** Lifts loads rapidly with easier pull on the chain. **Hero-Alloy Flexible Load Chain:** America's first welded alloy steel chain. **Sealed-in Lifetime Lubrication.** No attention required. **Low Cost.** No more than heavy old style chain hoists. Capacities: ¼ to 10 tons.

*Write for* BULLETIN 145A or phone your local CM Distributor for a demonstration.

**CHISHOLM-MOORE HOIST CORPORATION**
affiliated with Columbus McKinnon Chain Corporation
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York, Chicago and Cleveland • Distributors Everywhere

▼ BREVITY—Identify by IEN - 9889 if you write the maker ▼

# This 3M sealer STOPS gas leaks!

Cost surveys proved to a western gas company that usual methods of repairing a leaky 30-inch gas main under a busy traffic intersection would cost more than $50,000. The answer? Plug the pipe at each end. Then one man working *inside* the main applies 3M EC-801. Total cost: less than $7,000. Results: perfect.

There are 3M Sealers, Coatings and Adhesives especially compounded to meet the most unusual requirements of almost every industry. And if we're not making the one you need, a letter to us will have our engineers on the job in a hurry. Write for your copy of "3M Adhesives, Coatings, Sealers," today.

Made in U.S.A. by MINNESOTA MINING & MFG. CO., Adhesives and Coatings Div., 411 Fisquette Ave., Detroit 6, Mich. Also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubber-coat Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives. General Offices: Saint Paul 6, Minnesota. General Export: Durex Abrasives Corp., New Rochelle, N. Y. In Canada: Canadian Durex Abrasives, Ltd., Brantford, Ontario.

**3M** BRAND
**ADHESIVES-COATINGS SEALERS**

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STURDY, CONVENIENT, LOW-COST

**JIFFY** *ALL METAL* **CABINETS**

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

***Rustproof Aluminum Drawers***

Complete set of Dividers and Index Cards supplied.

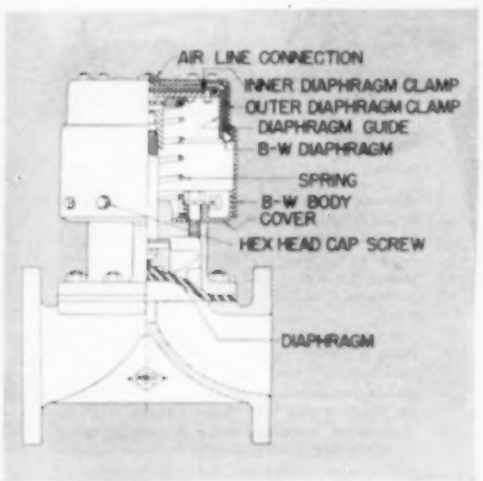
| APPROXIMATE SIZES |
|---|
| DRAWER: 1¼" Deep, 2¾" Wide, 6" Long |
| 32 DRAWER UNIT: 6" Deep, 12¼" Wide, 15¼" High |
| 64 DRAWER UNIT: 6" Deep, 25½" Wide, 15¼" High |

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work at such a low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

**KAYTEE PRODUCTS**
DEPT. L - BOX 588 - CANTON, OHIO

▼ BREVITY—Identify by IEN - 9892 if you write the maker ▼

# Grinnell-Saunders Diaphragm Valves *power-operated* by Bendix-Westinghouse Rotochamber Top-works




- Rolling sleeve type of seal . . . leakproof and practically frictionless. No packing glands! No lubrication!
- Compact pressed steel cylinder. Height from center line to top of 2" flanged air-to-close valve, only 9½"; or air-to-open valve (in open position) only 14½".
- Tested up to seven million strokes without sign of wear.
- Operated with air or hydraulic pressures up to 105 lbs. For pressures up to 100 pounds in the line being controlled, only 50 lbs. actuating pressure required under average conditions. No pressure reducing valves needed for pressures up to 105 pounds because of adjustable stem travel stops incorporated in the valve bonnet design.
- Easily adjusted without removing top-works from body.

**YOU GET THESE ADVANTAGES IN ANY GRINNELL-SAUNDERS DIAPHRAGM VALVE:**

Diaphragm isolates working parts from the fluid, preventing corrosion of these parts and contamination of the fluid; diaphragm lifts high for streamlined flow; diaphragm presses tight for positive closure, even with suspended solids in the line; body, lining and diaphragm materials to meet service conditions; simple maintenance.

**Get the whole story on this and other Grinnell-Saunders Diaphragm Valves. Send for Catalog.**

**GRINNELL**

Grinnell Company, Inc., Providence 1, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cleveland • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Rochester • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

▼ BREVITY—Identify by IEN - 9894 if you write the maker ▼

## ELEVATOR . . Hydraulic tailgate for pickup trucks rates ½ ton load

Source: NATIONAL LIFT CO.
223-27 Madison St., Waukesha, Wis.

**Lift-O-Matic** trade names new tailgate assembly that is powered by a hydraulic cylinder and a pump driven by the engine fan belt in a pickup truck. The pump includes a clutch for engagement when the gate is to be raised from ground to truck-bed level. The gate can be locked level at the truck bed or can be rotated to closed tailgate position. Control centers at a lever-operated valve on the side of the truck body.

▼ BREVITY—Identify by IEN - 9895 if you write the maker ▼

## RECTIFYING . . Selenium equipment, oil immersed, for electroplating work

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

**Particularly for barrel plating**

**Selenium** stacks are hermetically sealed in oil-filled cans and are assembled with a transformer and fan in a rectangular steel housing in this new rectifier. There are twelve stacks connected in parallel by busbars to mechanically sealed terminals. Neoprene is employed for sealing and glazed porcelain for the insulation. The fan assembles at the top in the housing and blows air downward to pass over the rectifiers and then the transformer.

**Each installation** consists essentially of two rectifiers with individual busbars brought out at the rear for connection in series or parallel to provide full current at normal voltage or half current at double voltage.

**Two models** provide output of 6/12 or 9/18 volt, 1,500/750 amp. dc on input of 250/400 volt on 60-cycle three-phase ac.

▼ BREVITY—Identify by IEN - 9896 if you write the maker ▼

## CUTTING . . Hand tool makes mitre cut in metal mouldings

Source: PYRAMID MOULDINGS INC.
5359 W. Armstrong Ave., Chicago 30, Ill.

**Metalmitre** is a new plier-type tool providing a toggle action with a 15-to-1 leverage to cut metal mouldings by hand. A die and punch are held in the tool jaws to make the cut. They are interchangeable for 45 and 90-deg. included angles, will cut shapes and channels with minimum opening at ¼ inch. List price is $12.75 to $16.75.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 9897 if you write the maker ▼

*New! Low-Cost!*

**VARIABLE SPEED**

**Wide Range Combination Sheaves Easily Attached to Any Machine**

**1/15 TO 15 HP—RATIOS UP TO 8:1**

Simple, sturdy Speed Selector Sheaves can be applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. Wide speed variations are possible with standard V-belts, since two variable pitch sheaves are used. Bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts are eliminated.

- Standard V-belts
- Automatic belt alignment
- Fixed shaft centers
- LOW COST

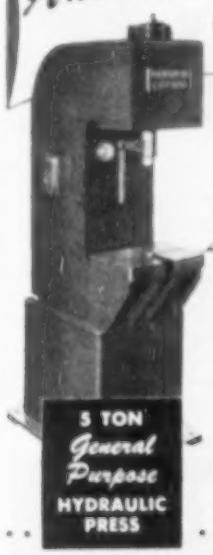
*Write* FOR FREE BULLETIN AND NAME OF LOCAL DEALER

**SPEED SELECTOR INC.**

118-A NOBLE COURT • CLEVELAND 13, OHIO

▼ BREVITY—Identify by IEN - 9898 if you write the maker ▼

*Ahead in* 1. DESIGN! 2. PERFORMANCE! 3. VALUE!




**A "PACKAGED" UNIT**—Complete with built-in hydraulic power unit, controls, and pressure gauge. Capacity, 5 tons, 10" stroke, 7" reach, 16" daylight. Stroke and pressure adjustable. Choice of models for bench or floor mounting.

**DOZENS OF USES**—Ideal for countless punching, press-assembly, forming, straightening, broaching, and similar operations.

**BIG VALUE! LOW COST**—Built to "Big Press" standards of quality! Rigid, deflection-resistant frame. Precision-built cylinder and ram.

**POPULAR WITH USERS**—Works fast with effortless ease. Precision pressure control at operator's finger tip. Easy to set for exact repetitive pressures.

**QUICK DELIVERY**—Get the presses you need now out of Hannifin's regular volume production. *Write for descriptive literature.*

**HANNIFIN CORPORATION**
1107 S. Kilbourn Ave., Chicago 24

▼ BREVITY—Identify by IEN - 9899 if you write the maker ▼

# *NOW* THE MOST VERSATILE OPTICAL COMPARATOR YOU CAN BUY

## Kodak Contour Projector Model 2

It handles large parts. There's 6¾ inches from lamphouse to object and 8 inches from object to lens—*at all magnifications.* Front lamphouse pivots to make room for long objects under surface illumination. Vertical travel is 4 inches.

It gives surface illumination in any of 5 planes, and switches instantly from surface illumination to silhouette projection, or to a combination of both. Instant dialing to any of 6 magnifications from 10× to 100× without distortion. The 14-inch screen is extra bright; no hoods or curtains needed—even in fully lighted rooms. Designed for all-day operator comfort, yet built to precise toolroom standards.

May we show you the savings it can make on your own inspection problems?

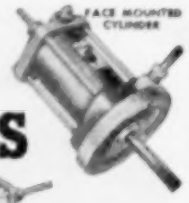
**EASTMAN KODAK COMPANY**
*Industrial Optical Sales Division*
Rochester 4, N. Y.

**the KODAK CONTOUR PROJECTOR SHOWS** contours, of course / surface details . . . / deep, blind holes

Kodak
TRADE MARK

BREEZE—Identify by IEN-9901 if you write the maker

## DOUBLE-ACTION AIR CYLINDERS



| Mounting | Bore | | | | |
|---|---|---|---|---|---|
| Horizontal | 1½" | 2¼" | 3" | 4" | 5" |
| Vertical | 1½" | 2¼" | 3" | 4" | 5" |
| Face | 1½" | 2¼" | 3" | 4" | 5" |
| Swivel | 1½" | 2¼" | 3" | 4" | 5" |

Length of stroke optional

The new Mead Air Power Catalog shows the full line of single and double-acting cylinders, and air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for faster, money-saving production. Write today!

**MEAD SPECIALTIES COMPANY**

6114 NO. KNOX AVE., DEPT. EA-100, CHICAGO 41, ILL.

BREEZE—Identify by IEN-9902 if you write the maker

## Here's an air actuated valve with the air cylinder built right into the bonnet!

If lack of head room is keeping you from installing air cylinder operated valves, the new Hills-McCanna Model 3700 Valves are the answer to your problem. The air cylinder is built right into the bonnet—the piston rod of the air cylinder serving as the valve stem. You get the proved advantages of Hills-McCanna Saunders Patent diaphragm valve design in a compact air operated assembly. Write for full details and specifications. HILLS-McCANNA CO., 2347 W. Nelson St., Chicago 18, Ill.

*Check* THESE FEATURES

No pick-up-and-lose fasteners sticking in spring—the windbowing. Sizes 4" through 12". Max. press. 125 lbs. air, temp. to 180°F, standard or 220°F, special.

**HILLS-McCANNA *Diaphragm Valves***

Remote operation with air and water cylinders, diaphragm motors or gear motors by manual or automatic control.

BREEZE—Identify by IEN-9903 if you write the maker

## SERVING and SAVING ALL INDUSTRY

Like hundreds of other manufacturers, you, too, can save money if American Welding makes your rings, bands and welded products.

We believe we can save money for you. Designers, engineers, and metallurgists are ready to work with you and for you. All types of resistance and fusion welding equipment for working with ferrous and non-ferrous metals and alloys are available, as well as heat-treating and machining facilities.

We'll be happy to apply a third of a century's experience to your requirements. Send us prints and specifications for prompt action.

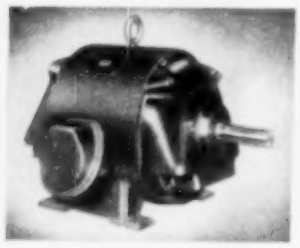
**THE AMERICAN WELDING & MANUFACTURING CO.**

140 DIETZ ROAD • WARREN, OHIO

BREEZE—Identify by IEN-9904 if you write the maker

## MOTOR . . Polyphase ac., 7½ to 100 hp., splash proof design

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Box 868-A, Pittsburgh 30, Pa.



**Type CSP** designates new line of induction motors available in ratings from 7½ to 100 hp. in splash-proof design. The motor is intended for use in food-processing plants, chemical plants, laundries, boiler rooms, refineries both indoors and outside. End brackets are baffled on the solid rolled-steel frames so dripping or splashing liquids cannot enter.

**The motor** is constant-speed type with the rotor shaft riding pre-lubricated and sealed ball bearings that require no added lubricant. The line includes units for operation on 25, 50 or 60 cycles at 208, 220, 440, 550 and 2,300 volts ac. Frame sizes are numbers 364 through 445.

BREEZE—Identify by IEN-9905 if you write the maker

## CONVEYING . . Sectional roller units assemble flexibly for curves, inclines

Source: BERLIN CHAPMAN CO.
50 Chapman St., Berlin, Wis.

**Flex-Co** is a new roller conveyor made up of sections mounted on tubular supports and tied together longitudinally. The sections are made in four widths between 12 and 36 inches. The supports are adjustable for any height between 22 and 38 inches. The longitudinal tie straps are adjustable so the conveyor can be set up in any combination of curves and straight runs. Individual sections are 8 in. in length measured in the direction of work movement. Seven of these sections can be made into a 90-deg. turn.

BREEZE—Identify by IEN-9906 if you write the maker

## SHIPPING . . By air through New York the subject of new 28-page information booklet

Port of New York Authority
111 Eighth Ave., Room 1516, New York 11, N. Y.

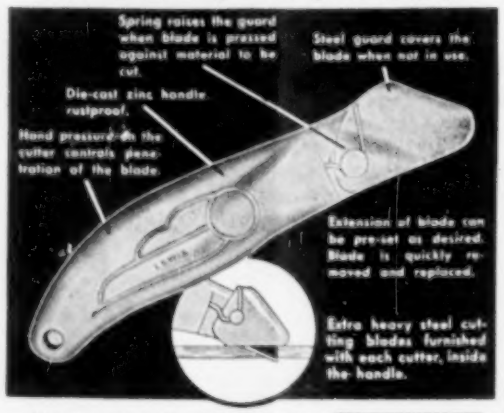
**First** of two sections in new "Guide to Air Shipping via the Port of New York" describes how to route air cargo through New York from inland points by air, rail, truck. It includes a check list of 11 points to consider in determining whether to ship overseas by air or surface transportation. Second section presents 10 tables on rates, charges, tariffs.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREEZE—Identify by IEN-9907 if you write the maker

*A New Invention . . . Safe . . . Different*

## LEWIS Automatic SAFETY CUTTER




Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

**$1.50**

**FLASH BOX OPENER CO., Inc.**
52 W. Houston St. • New York 12, N. Y.

BREEZE—Identify by IEN-9908 if you write the maker

## *Why does an* ARIDIFIER REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?

**STUDY EXPLODED VIEW FOR ANSWER**

Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing, and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

CAPACITY RANGE: AS LOW AS 7 CFM TO 17,000 CFM

Made By The Manufacturers of Logan Lathes and Shapers

**Logan ENGINEERING CO.**

4902 W. LAWRENCE AVE., CHICAGO 30, ILL.

BREEZE—Identify by IEN-9909 if you write the maker

## How WALES Strippits* pay for themselves every time you remove stripper plates

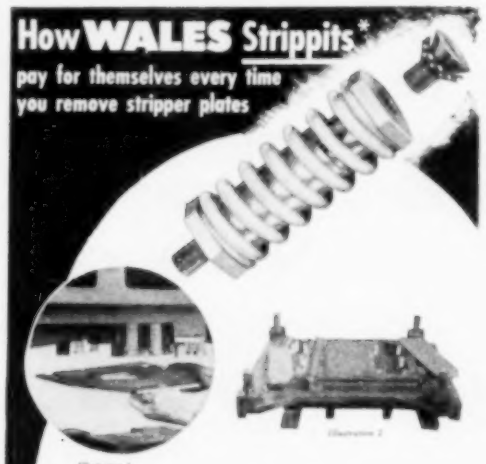


Illustration 1 Illustration 2

The ease of removing a Stripper Plate from a punch by simply backing off the screws that hold the Stripper Plate to the Strippits is shown in illustration 1. Replacing the Stripper Plate on the punch is accomplished just as easily and quickly. That's why *Strippits pay for themselves each time* you remove Stripper Plates.

Illustration 2 shows Strippits used with Stripper Plates in a blanking die. The use of Stripper Plates with Strippits is for one purpose only—to eliminate markings on the work. Illustration 3 shows punched-out blanks in place of the Stripper Plates. Note, the center blank is elevated above the cutting edge of the die for easy, quick removal of the work from die.

Illustration 4 shows the 5 Stripping Plates that are eliminated by using Strippits. The simplicity of die construction, greater economy by minimizing die parts, and ease of installation is made possible only with Strippits.

Write TODAY for fully-illustrated Catalog S and have the Strippit story at your fingertips.

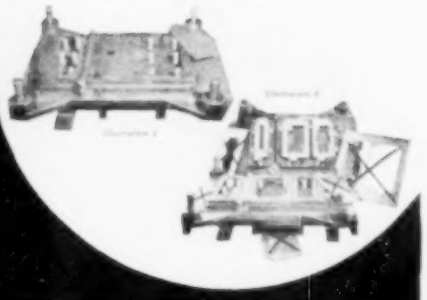


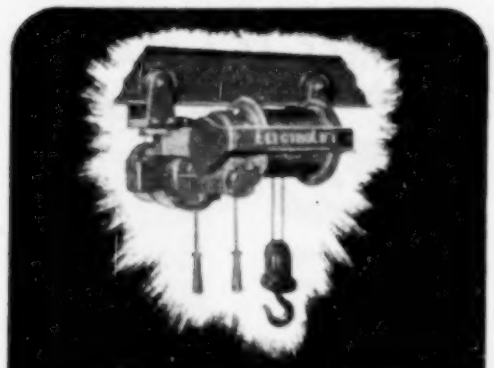
Illustration 3 Illustration 4

**WALES-STRIPPIT CORPORATION**
GEORGE F. WALES, Chairman
361 PAYNE AVENUE, NORTH TONAWANDA, N. Y.
(Between Buffalo and Niagara Falls)
WALES-STRIPPIT OF CANADA, LTD., HAMILTON, ONTARIO

*Specialists in Punching and Notching Equipment*

*The word "Strippit" was coined by telescoping "Stripping Unit" into one word. Strippers being the original product, was adopted as a part of this Corporation's name.

BREVITY—Identify by IEN-9911 if you write the maker



**ELECTROLIFT** saves handling costs because it uses little power, requires less labor and does the job quickly. Many users report this worm-drive electric hoist saves them more than enough money to pay for its installation. There's an ElectroLift model to meet your capacity (up to 6 tons), speed and plant layout needs. Write or phone your nearest ElectroLift representative — listed in the classified directory — or:

ELECTROLIFT, INC., 30 Church Street, New York 7, N. Y.

BREVITY—Identify by IEN-9912 if you write the maker

# LEPEL offers a New LOW COST High Frequency HEATING UNIT

AT A PRICE SO LOW THAT NO MACHINE SHOP, TOOL ROOM OR LABORATORY CAN AFFORD TO BE WITHOUT IT!

Unit illustrated brazing carbide tips to cutting tools. Shanks up to 1½" square can be satisfactorily brazed.

- **SMALL and COMPACT** Conveniently operated on bench or table—no mounting necessary.
- **ECONOMICAL OPERATION** No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.
- **FULLY GUARANTEED** Guaranteed for continuous duty cycle and stated performance.
- **LOW COST** Complete unit with line connection and load coil. $780.00 f.o.b. factory

**DOES ALL THESE JOBS** *Faster, Better and Cheaper*

BRAZING, SOLDERING HARDENING, ANNEALING DRAWING AND MELTING

**WILL HEAT TO 1500° F.**

| | |
|---|---|
| ⅛" steel rod 1" length in approx. | 1 second |
| ¼" " " " " " | 3 seconds |
| ½" " " " " " | 15 seconds |
| 1" " " " " " | 60 seconds |

Will melt 4 ounces of brass or steel in 4 minutes. Equally well suited for heating of non-ferrous metals.

HARDEN SOLDER **Lepel** HIGH FREQUENCY HEATING UNITS BRAZE MELT

LEPEL HIGH FREQUENCY LABORATORIES, Inc., 39 West 60th Street, New York 23, N. Y.

BREVITY—Identify by IEN-9914 if you write the maker

## TRUCK . . Hand operated fork lift to handle cable reels, rolls of paper

Source: LYON-RAYMOND CORP. 3574 Madison St., Greene, N. Y.

The load forks on this new truck provides a 15-in. opening width. They are movable between 14 and 28 in. above the floor by operating a hand hydraulic pump and release valve. The truck is mounted on 5-in. rigid and swivel castors and has a load rating of 300 pounds. Base opening measures 13 inches.

BREVITY—Identify by IEN-9915 if you write the maker

## VALVE . . Glass float check design prevents loss of liquid from U-tubes

Source: KING ENGINEERING CORP. Box 300-A, Ann Arbor, Mich.

New valve consists of a glass tube 7 mm. in external diameter by 6 in. in length with an enlarged section measuring about ⅝ in. at the center. This section contains a ground seat that is located above a glass float carrying a seat-contacting ground end. Rising liquid in a tube to which the section is connected will raise the float and close the passage.

The valve is standard equipment on the company's hydrostatic gages and manometers. It is available as a separate part to apply on similar U-tube equipment preventing loss of liquid due to surges.

BREVITY—Identify by IEN-9916 if you write the maker

## CLEANING . . Floor sweeping machine for dust free operation, 32 in. brush

Source: RITE-WAY INDUSTRIAL SWEEPER CO. Industrial Bank Bldg., Detroit 26, Mich.

Model V is a new assembly in the company's line of floor sweeping machines. It mounts a cylindrical brush measuring 32 by 8 in., a corner brush and delivers into a dirt container and a vacuum collector. Drive is by a 4-cycle gasoline engine to rotate the main brush at 250 rpm. and to drive the smaller corner brush, the machine traverse and the vacuum blower. Sweeping capacity is 20,200 sq. ft. per hour. Dimensions are 30 by 37 inches. The machine weighs 245 lb., lists at $335.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

BREVITY—Identify by IEN-9917 if you write the maker

# CANNON SPECIALTY LIGHTS for Signal Devices

DNP-1 Night Light

DNP-2 Signal Light

**. . . and household uses**

A new slant for the architect, electrical contractor and illumination engineer—Cannon Utility Pilot Light for residence uses as a night and convenience light, low or 115V. service. Write today for UPL-2, Specialty Lights Bulletin.

Address Cannon Electric Development Company, Division of Cannon Manufacturing Corporation, 1206 Humboldt Street, Los Angeles 31 California. Canadian offices and plant: Toronto, Ontario.

SINCE 1908 CANNON ELECTRIC

BREVITY—Identify by IEN-9918 if you write the maker

# NEW Odee-HONE

**A Single Tool for Honing any CYLINDRICAL SURFACE**

from ½" to 2½" in diameter — any length

*Simple to set up and operate*

- LIGHTWEIGHT
- VERSATILE
- ACCURATE
- INEXPENSIVE

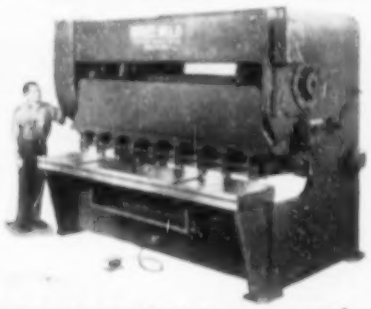
Removes stock—Holds accurate size—Generates round, straight surfaces—Develops any degree of surface finish without chatter. Use with any lathe, drill press or electric drill.

*For complete information write or call*

**MICROMATIC HONE CORPORATION**

8100 SCHOOLCRAFT • DETROIT 4, MICHIGAN

BREVITY—Identify by IEN-9919 if you write the maker



## *EASIEST* OF ALL SHEARS TO OPERATE!

"Easiest of all shears to operate"— so many operators say of Steelweld Pivoted-Blade Shears. These machines are radically different from all other shears. They have many new features heretofore unavailable that ease the work, speed production, increase accuracy, reduce maintenance.

Get the facts on Steelweld Shears. Built in all sizes for plate up to 16 feet long or 1-1/4" thick.

Send for free copy Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO. 4227 East 282nd St., Wickliffe, O.

**STEELWELD SHEARS**

BREVITY—Identify by IEN-9920 if you write the maker

# WHITNEY WOODRUFF TYPE KEYS

***Cut Production Costs . . . Permit Ease of Assembly***

**HERE'S HOW**

- Eliminate skilled labor in key seat cutting and key fitting operations.
- Are easy to assemble because of flat key bottom and starting radius.
- Key reaches deep into shaft and is firmly embedded, enabling it to withstand greater strain.
- Offer greater resistance to shaft fracture due to shape of key set and permanent key fit.
- Simplify key seat cutting in tapered shafts.

Whitney Woodruff Type Keys are made to American Standard sizes and Whitney Standard sizes for special application. They are available from Whitney distributors throughout the country or write:

**WHITNEY CHAIN COMPANY**

202 Hamilton Street, Hartford 2, Conn.

BREVITY—Identify by IEN-9921 if you write the maker

## KIRK and BLUM
# NEW TYPE "M"
## UNIT DUST COLLECTORS

**Maximum Capacity Minimum Space and Maintenance**

This new Heavy Duty Unit Collector offers many features not found in the ordinary portable dust collecting unit. Cleaned air may be returned to room or vented to outside. Motor and exhauster are completely isolated from dust . . . . the unit is completely fireproof. Housings are extra heavy. This unit can be readily moved to meet changing needs. Models available in 450, 900 and 1800 CFM at high velocity.

Kirk and Blum with 42 years experience in large dust control installation, have designed this unit for higher efficiency, with greater capacity and compactness. Write for Bulletin M. The Kirk and Blum Mfg. Co., 2286 Spring Grove Ave., Cincinnati 25, Ohio.

FOR CLEAN AIR . . . THE INVISIBLE TOOL
**KIRK-BLUM**
DUST CONTROL SYSTEMS

BREVITY—Identify by IEN-9922 if you write the maker

## FULLERGRIPT BRUSHES
on Harris Offset Presses Keep Paper from Creeping and Spoiling Side Register . . .

In offset printing, unless paper is held in line on the feed table, it creeps back up the table and spoils the side register. The Harris-Seybold Company of Cleveland eliminated this risk by installing 2" wheels, made of Fullergript brush strips, to work in conjunction with the moving web tapes underneath the sheet of paper. These brushes hold the sheet of paper against stop fingers while it is being side registered.

Many problems in industry are being licked with Fullergript brushes. They are used on numerous applications besides brushing. For further information, simply write to

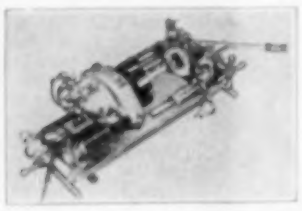
**DO YOU REQUIRE A SPECIAL MACHINE FOR A BRUSHING OPERATION?** You can benefit from our wide experience in designing and building special brushing machines. No obligation to lay your problem before our engineers. Write today.

**FULLERGRIPT** THE FULLER BRUSH CO.
INDUSTRIAL DIVISION, 3583 MAIN STREET, HARTFORD 2, CONN.

BREVITY—Identify by IEN-9924 if you write the maker

## THREADING . . Machine for pipe, conduit, bolts, takes pipe to 2 inches

Source: BEAVER PIPE TOOLS INC.
200-300 Dana Ave., Warren, Ohio



**Model E** is a new small design of the company's Model A machine particularly for work in which portability is a factor. The machine takes the same interchangeable die heads as the larger Models A and B. It weighs 185 lb., can be transported by one man equipped with a wheel-mounted stand that the company can supply. Base dimensions are 12½ by 27 inches. The machine is motor driven, takes pipe from ¼ to 2 in. through its rotating head. It can be employed under favorable conditions to drive larger die head to a maximum of 12 inches.

**Standard equipment** includes a universal motor for operation on ac. or dc. at 110 or 220 volts as selected by the user, a reversing switch, oil pump, removable chip tray, lever-action die-head carriage, reamer, wheel-and-roller cutoff. A knife cutoff can be supplied to cut groove or bevel pipe. The spindle is equipped with a wrench-operated scroll chuck. Head gearing operates in oil inside its enclosing housing.

BREVITY—Identify by IEN-9925 if you write the maker

## WRENCH . . Stud driver and remover, collet design, sizes to ⅝ and 1 inch

Source: SNAP-ON TOOLS CORP.
8030 28th Ave., Kenosha, Wis.

**Fourteen collets** for fine and coarse-thread studs from ¼ to ⅝ in. are included with a drive housing in the smaller of two stud drivers announced by the company. Six collets for ¾ to 1-in. studs are included with the larger unit. Overall diameters are 1⅝ and 2⅛ inches.

**The operator** selects the collet to fit a stud for driving or removal. He inserts it in the drive housing, applies it on the stud and turns a bolt at the rear of the housing. This draws the collet taper into the housing, closes the collet on the stud threads for solid driving grip. Reversing the bolt pushes the collet to loose open position. Turning to apply or remove a stud is by an open end or socket wrench.

BREVITY—Identify by IEN-9926 if you write the maker

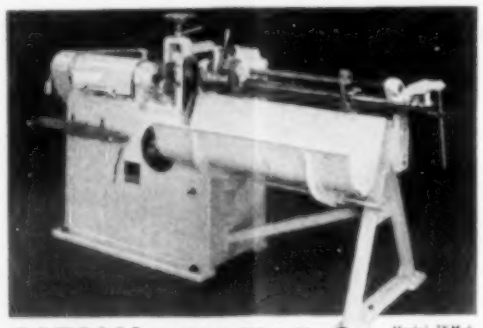
## PLASTICS . . Helpful suggestions in data sheet on annealing polystyrene parts

Koppers Co.
2047 Koppers Bldg., Pittsburgh 19, Pa.

**Internal stresses** in molded polystyrene plastic parts is first of two major topics covered by new three-sheet Technical Service Report, "Annealing of Polystyrene". Information includes causes and methods of relief to prevent crazing and cracking of finished parts. Second topic presents specific procedures. A copy of the new report will be sent upon request.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-9927 if you write the maker



Model TKM-6

## NEW! PULLMAX
### WIRE STRAIGHTENING MACHINE

★ FULLY AUTOMATIC! ★ ANY DESIRED LENGTH TO 19'6"!
★ STRAIGHTENS AND CUTS WIRE OF 1/32" TO 9/32" DIAMETER!
★ RATE OF FEED 56' TO 181' PER MINUTE!

An automatic machine with rotating straightening dies that relieve internal stress in wire. Wire is cut by contacting adjustable stop. Built sturdy and rugged to the highest standards of precision. All high speed shafts are mounted in ball bearings; gears are hardened chromium nickel steel—All meshing parts, rollers and guides are hardened and ground.

Machines cut any desired length to maximum of 19'6". Receiving trays available in multiples of 2'3" up to a maximum of 19'5".

WRITE FOR LITERATURE AND PRICES

**AMERICAN PULLMAX COMPANY, INC.**
2631 North Western Avenue Chicago 47, Illinois

BREVITY—Identify by IEN-9928 if you write the maker

## READINGS AT A GLANCE

**for BOTH AC and DC**

***Instant Current Measurements Without Breaking Circuit or Insulation . . .***

You can read 'em fast and accurately with the Columbia Tong Test Ammeter by merely clamping the tongs around the electrical conductor. Tong Test is the only instrument of its type that can measure both AC and DC. Cannot burn out for it has no windings. Safe, convenient and light in weight. Interchangeable scale ranges up to 1000 amperes. Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½". Voltage readings, too, with the Voltor Attachment.

*Write for Tong Test Bulletin TQ-400*

**COLUMBIA ELECTRIC MFG. CO.**
4519 Hamilton Ave., Cleveland 14, Ohio

BREVITY—Identify by IEN-9929 if you write the maker

# You know the LIGHT is RIGHT

**...when it's "via Graybar"**

For plant, for office, for product—when you order lighting via Graybar, you know the light will be the right kind, the right intensity, and applied right. We have planned and supplied lighting systems of every type. A Graybar Lighting Specialist can be of important help to you or your electrical contractor in planning any lighting system, indoor or out. In addition, with just one order to Graybar, you can also obtain all the necessary conduit, wiring, and supplies.

## *Fast delivery of lamps*

Graybar distributes every type and size of lamp required to light your plant. They're all G-E, so you get the best in quality and long service. To assure prompt deliveries, Graybar maintains lamp stocks at more than 100 warehouse locations throughout the nation.

## Expert help on lighting

Graybar Lighting Specialists are qualified to give expert advice on fluorescent, filament, or mercury lamps and lighting units for any application. Because Graybar has the most complete selection of lamps and lighting units available from any one source, these men can impartially recommend the lighting equipment that's correct for any illumination need.

## Call Graybar for Everything Electrical

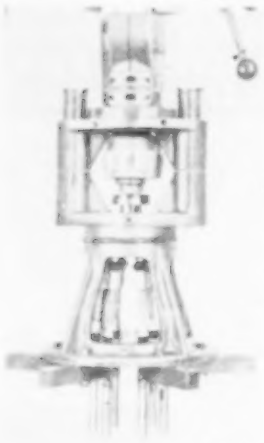
Graybar distributes more than 100,000 electrical products of over 200 manufacturers—carefully selected materials, equipment, and tools for wiring, lighting, communication, power. To aid fast delivery, thousands of these items are delivered from local stocks at more than 100 Graybar branch locations. This nationwide network of warehouses may be a real time-saver when you're looking for hard-to-find items. Graybar Specialists in various fields are on call to help you meet unusual problems. Graybar Electric Company, Inc., Executive offices: Graybar Building, New York 17, N. Y.

5087A

*You get the best of everything electrical Via GraybaR*

IN OVER 100 PRINCIPAL CITIES

▼ FREE!!!—Identify by IEN - 9931 if you write the maker ▼



## NEW TAP or DRILL UNIT by THRIFTMASTER

*Features . . .*

1. Attaches to Any Drill Press
2. Automatic Reverse for Tapping
3. Motor at Same Set-Up
4. Spindles Adjustable to Different Heights of Fixtures
5. Increases Drilling and Tapping Production 2 to 4 Times Hand Methods — Lowers Cost
6. Light in Hand Rate Up to ½" Capacity—2 to 10 Spindles

ALSO
COMPLETE LINE
ADJUSTABLE AND FIXED CENTER
DRILL HEADS

Direct Representative:
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16255 Schaefer
Telephone: VEnmont 8-2500
Subsidiary of Thriftmaster Industries, Inc.

**THRIFTMASTER PRODUCTS CORPORATION**
1040 N. Plum St., Lancaster, Pa.
also Makers of
**DORMAN AUTOMATIC REVERSE TAPPERS**
4 Sizes • Friction & Positive Drives Capacity: 2-56 to 5" in Steel

▼ FREE!!!—Identify by IEN - 9932 if you write the maker ▼

**SEND FOR**

# Your Catalog

FROM

**INDUSTRY'S HEADQUARTERS FOR VALVES TO AUTOMATICALLY CONTROL THE FLOW OF LIQUIDS AND GASES**

1. on-and-off valves
2. cycling valves
3. flow-directing valves

Forty years ago, we began to design and manufacture solenoid valves. So, we do have plenty of experience to guide us in the selection of valves for automatic control problems brought to our attention. And we have an exceptionally wide range and variety of solenoid valves from which to select, including many explosion-proof and Factory Mutual approved types.

We'd be glad to work with you on any automatic flow control problem you have. To get acquainted with our wares, send for our Condensed Catalog 200 B.

ASCO VALVES — When in need of A-matic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us.

**Automatic Switch Co.**

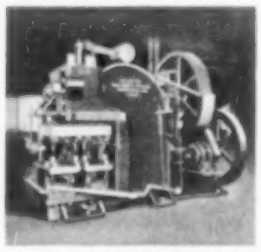
385 LAKESIDE AVE. • ORANGE, NEW JERSEY

▼ FREE!!!—Identify by IEN - 9933 if you write the maker ▼

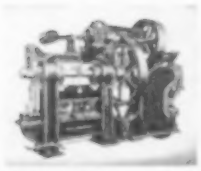
# BEATTY *Machines*

## SPEED YOUR PRODUCTION

There's a better-designed, better-built BEATTY machine for practically every metal-working application. If you have a production problem, let a Beatty engineer study it.



BEATTY No. 11-8 Heavy Duty Punch for production tooling and use with BEATTY Spacing Table



BEATTY CoPunShear — one compact unit handles Coping, Punching, Shearing.

BEATTY Horizontal Hydraulic Bulldozer for heavy forming, flanging, bending.

**BEATTY** MACHINE & MFG. CO.
HAMMOND, INDIANA

▼ FREE!!!—Identify by IEN - 9934 if you write the maker ▼

## HEATING . . Gas fired space unit with motor driven centrifugal blower

Source: REZNOR MFG. CO.
300 James St., Mercer, Pa.

**Centrifugal blower** is employed in the place of a motor-driven fan in this new line of space heaters. Eight sizes rate 20,200 to 190,000 btu. of heat output per hour. Air delivery is maximum at 900 to 2,000 cfm. The blower impeller measures 7 in. in diameter and width in the smaller size and employs a 1/12 hp. motor. It measures 15 to 15½ in. in the largest size and is driven by a ¼ hp. motor. Overall dimensions are 19⅝ to 24 in. in width, 23⅝ to 36 in. in depth, 22⅝ to 33½ in. in overall assembly height.

**Gas burners** fire into a heat exchanger via the fan-equipped mixer-blower in the unit. Products of combustion pass upward through the exchanger to an exhaust connection near the top. Air from the blower is driven over the outer surfaces of the exchanger for delivery through directional louvers at the front of the housing. The blower is mounted on rubber cushions. An oil seal made of felt is employed between blower and housing.

▼ FREE!!!—Identify by IEN - 9935 if you write the maker ▼

## PUMP . . Mechanical shaft seal for company's centrifugal pumps

Source: MARLOW PUMPS
46 Greenwood Ave., Ridgewood, N. J.

**Type SF** is a new mechanical seal that has been developed by the company for use in its self-priming and straight centrifugal pumps in pump sizes from 1½ to 8 inches. Four shaft sizes are ⅝ to 2 inches. Types of seal include one to operate with clear liquids and to require no lubrication and one for external application of grease for installations where the pump is to handle liquids containing abrasive solids. Capacity of the pumps is to 4,000 gpm. with pressure to 150 pounds.

**Goodrich Hycar** synthetic rubber is employed in the collar A that provides resilient backing for the Mechanite or grain honeshed ring B. Collar and ring rotate with the shaft, the ring presenting a flat sealing end that contacts the stationary carbon ring C. This ring is pressed into a gasket sealed in the pump housing. When the impeller is positioned and secured on the shaft end it bears against the collar A to hold the two sealing rings in initial contact.

**Similar construction** is employed in the grease-lubricated design except that the stationary sealing ring is made of bronze and provision is added to introduce grease and to prevent its escape along the shaft.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30*

▼ FREE!!!—Identify by IEN - 9936 if you write the maker ▼

# MET-L-WOOD
METAL BONDED TO PLYWOOD

Has Hundreds of Structural Uses in Modern Plants

*To Name a Few:*

- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented "Rolmet Construction")
- Truck Body Panels
- X-Ray Rooms
- Moisture Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical structurally-sound designs in hundreds of varied uses. But start toward thinking in terms of Met-L-Wood design opportunities, it is used for the Bulletin described below. Met-L-Wood Engineering Service is available without obligation on specific problems.

**SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES**

Quick facts, with illustrations and diagrams on Met-L-Wood applications, types, possibilities. Sent without obligation on request.

Met-L-Wood is metal bonded to plywood—permanently. Many metals, woods, thicknesses, shapes, finishes are available to meet YOUR requirements.

**MET-L-WOOD CORPORATION**
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . . opening new horizons in structural designs"

▼ FREE!!!—Identify by IEN - 9937 if you write the maker ▼

# Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

BECAUSE it sweeps faster and cleaner, and bristles and very brushes last 3 to 5 Speed Sweep has become the No. 1 sweeping tool of American industry . . . used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

If you for sales, trial and prices.

**MILWAUKEE DUSTLESS BRUSH CO.**
MILWAUKEE 3, WISCONSIN

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*offers you the Economy of*

# OZALID!

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Ozalid is a speedy copying process that reproduces anything drawn, typed, written . . . in any size. You get perfect copies of engineering plans, drawings, records, reports . . . anything.*

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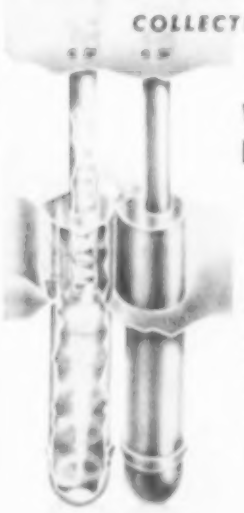
A DIVISION OF GENERAL ANILINE AND FILM CORPORATION
"FROM RESEARCH TO REALITY"

▼ FREE!!!—Identify by IEN - 9939 if you write the maker ▼

*THE INLET THAT Boosted COLLECTION Efficiency*



Exclusive in the

## VALMONT TYPE S DUST COLLECTOR

High collection efficiency in the ultra-fine dust range below 10 microns was the goal attained by Thermix Corporation with the introduction of the Valmont Type S cone Tube—the tube with a high-pressure inlet.

The advantage of this patented inlet proportion design is that it allows the radial radiation of most of dust particles as they spiral down the cone.

As dust cake becomes more apparent, the high mechanical collection efficiency of the Valmont Type S becomes more important.

Valmont Type S Tubes are shipped in "clusters" of 19, 37 or 61 tubes each, materially reducing operation costs.

*Project and Sales Engineers*
**THE THERMIX CORPORATION**
GREENWICH, CONN.

Canadian Affiliate:
T. C. CHOWN, LTD.
1440 St. Catherine St. W.
Montreal 25, Quebec

*DESIGNERS AND MANUFACTURERS*

**PRAT-DANIEL CORPORATION**
78-10 WATER STREET EAST PORT CHESTER, CONN.

▼ BREEZY—Identify by IEN-9940 if you write the maker ▼

## STURTEVANT EQUIPMENT INCREASES PRODUCTION AND CUTS COSTS

RING-ROLL MILLS
for medium and fine reduction 10 to 200 mesh, hard or soft materials. Very durable, small power. Operate in closed circuit with Screen or Air Separator. Open door accessibility. Many sizes. No wrappers, plows, or pushers.

ROTARY FINE CRUSHERS
for intermediate and fine reduction down to ⅛". Open door accessibility. Soft or moderately hard materials. Efficient grindings. Excellent preliminary Crushers preceding Pulverizers.

CRUSHING ROLLS
for granulation, coarse or fine, hard or soft materials. Automatic adjustments. Crushing shocks balanced. For dry or wet reduction. Sizes 8x5 to 58x30. The standard for abrasives.

MOTO-VIBRO SCREENS
screen anything screenable. Classified vibrations. Unit construction — any capacity. Open door accessibility. Open and closed models with or without feeders. Many types and sizes — range of work ½ inch to 60 mesh.

Sturtevant Mill Company, 113 Clayton St., Boston 22, Mass.

▼ BREEZY—Identify by IEN-9941 if you write the maker ▼

FASTER! from forward to reverse IT DOES MORE WORK!

EASIER! to operate than your car IT DOES MORE WORK!

BETTER! neutral tests prove IT DOES MORE WORK!

*HERE'S A COMBINATION DESTINED TO MAKE MATERIALS HANDLING HISTORY*

• The husky and versatile gas-powered Carloader fork-lift truck of 3,000-, 4,000- and 5,000-lbs.-capacities, has done more than any other one model to establish Mechanized Materials Handling as essential to modern high-speed, low-cost production.

• The revolutionary Dynatork Drive cuts deeply into handling costs *by increasing as much as 20 per cent the amount of work a fork truck can do.* It transmits engine power to the drive wheels by magnetic induction, through an air gap—no clutch, no conventional transmission. It's unique because it does not have to be brought to a stop before reversing.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 41, MICH.
Please send: ☐ Literature on Carloader with Dynatork Drive ☐ Movie Digest ☐ Material Handling News
Name
Firm Name
Street
City Zone State

INTERNATIONAL CLARK INDUSTRIAL TRUCK PARTS ON 3 LONG STATIONS IN STANDARD LOCATIONS

▼ BREEZY—Identify by IEN-9943 if you write the maker ▼

## CLAMPS . . Aluminum alloy units for laboratory use are pressure formed

Source: LABORATORY INDUSTRIES INC.
2044-48 N. 77th Court, Elmwood Park, Ill.

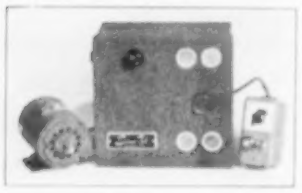
**Tensile** strength of the alloy employed in this new line of laboratory clamps and accessory parts is 45,000 lb. per square inch. Melting point is 1,100 deg. F. Each unit presents a finished nonporous surface, particularly suited for laboratory use. Extension rods are extruded aluminum. Thumb screws are aluminum forgings. The clamp is available in a range of single, double and combination assemblies as shown in the illustration. The jaws are covered with rubber or asbestos sleeves as specified. Each unit is packaged in its own identified box for quick reference in reserve storage. Alumaloy is the trade name. Sales will be handled through appointed laboratories and dealers.

**Bulletin**, 8 pages, "Alumaloy Laboratory Clamps", pictures individual units, provides description, size, and price data.

▼ BREEZY—Identify by IEN-9944 if you write the maker ▼

## DRIVE . . Variable speed dc. motor and electronic control rates to ½ hp.

Source: SERVO-TEK PRODUCTS CO.
2-6 Godwin Ave., Paterson 1, N. J.



**Electronic** power-supply assembly for operation on 110 or 220-volt, single-phase 50/60-cycle ac, a ball-bearing dc motor in a standard drip-proof frame and a control station make up this new variable-speed drive. It provides stepless speed adjustment between 80 and 1,800 rpm. In standard assembly, other speeds in an approximate 20 to 1 range to specification. The motor provides constant torque over the range. Reversing can be specified.

**The power unit** is in a cabinet measuring 8 by 4 by 8 inches. It can be mounted on a bench or wall. The control station measures 2 by 2 by 4½ in. and contains a potentiometer to vary the speed, a pilot lamp and a switch to permit the operator to start and stop the motor without changing the speed setting.

▼ BREEZY—Identify by IEN-9945 if you write the maker ▼

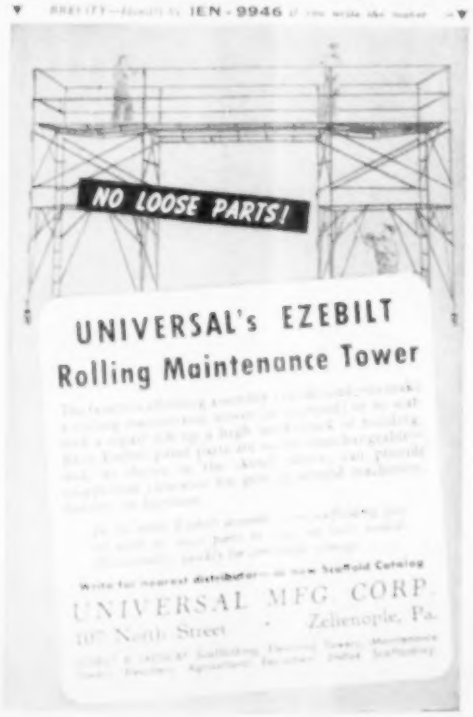
## MANAGEMENT . . How to get a job the subject of new 16-page information booklet

Holden Co.
1294-98 Union Commerce Bldg., Cleveland 14, Ohio

**John H. Weeks**, company's Director of Personnel Relations, prepared new booklet of useful suggestions on how to look for and secure a job. Title is "Getting the Right Job". Topics include making up your mind, presenting your qualifications, seeking employers who need you, preparing for the interview, completing the application form, keeping your opportunity alive. The company will send you a copy on request.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZY—Identify by IEN-9946 if you write the maker ▼




▼ BREEZY—Identify by IEN-9947 if you write the maker ▼

## SAVE on OPERATING COSTS and RENT with CARD Sturdi-Lite SAFETY LADDERS

EASY to move around, SAFE to work on, hands shelf or basket at top. Amazingly LIGHT WEIGHT but STRONG tubular ALUMINUM construction, including hand rails. Sturdy one-piece steps, non-skid rubber treads. Ball-bearing casters on two rear legs and front Swiveling Caster. Heavy coil spring keeps the two front rubber feet off floor until a person steps on ladder, then they lower and rest securely on floor.

*MANY Time-Saving USES* in factory assembly lines, maintenance work, stock, tool and file rooms, etc.

*SAFE SPACE*—stack things HIGH in files, shelves, bins, lockers, etc. They're easy to get at, with CARD SAFETY LADDERS.

For NARROW AISLES — 18" width in 3-step, 4-step and 5-step with shelf or basket at top.

For WIDE AISLES — 24" width in 4-step, 5-step and 6-step with shelf only at top.

ALSO 2-step Stools and Rollaways.

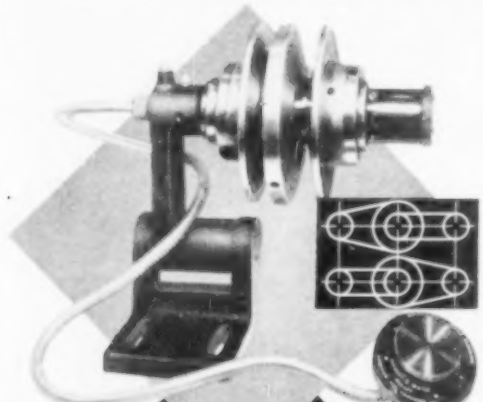
Write

D. R. CARD COMPANY
*National Distributor*
829 MERCHANDISE BLDG.
MINNEAPOLIS 2, MINN.

Mfrs.: BURD METAL PRODUCTS
Clearwater, Fla.

▼ BREEZY—Identify by IEN-9948 if you write the maker ▼

# NOW!



Boost Speed UP...
Cut Speed DOWN...
...without steps!

## ADJUST-O-MATIC
### Variable Speed Pulleys

**Give infinitely variable speed**—over a 2:1 or 3:1 ratio, depending on power.

**Models available with remote control** (shown) or with adjusting knob integral with hub.

**Can be mounted in any position** . . maintain set speed regardless of load fluctuations or changes in belt tension.

**To increase performance**

Design Adjust-O-Matics into your new machines.
Install Adjust-O-Matics on your present equipment.

**Get all the facts** on the new Adjust-O-Matic pulley—send for this technical bulletin today.

AMERICAN TYPE FOUNDERS
200 Elmora Avenue, Elizabeth 3, New Jersey

▼ BREVITY—directly to IEN-9950 if you write the maker ▼

# Vibration Problems Solved Without Design Changes

In cases where vibration tends to loosen standard nut-and-bolt assemblies, this problem can often be solved with a simple fastener changeover.

With no change in the design of your product or in assembly procedure, self-locking Elastic Stop Nuts can be substituted directly for standard nut-and-lockwasher assemblies, double nut units or castellated nuts and cotter keys. Built in one piece with an elastic locking insert, Elastic Stop Nuts are run onto bolts or studs with standard nut runners. The famous Red Elastic Collar grips threads, and *holds just as it's set*, regardless of vibration or impact.

On machine tools, household appliances, portable tools, automotive and railroad equipment Elastic Stop Nuts are solving vibration problems every day. In addition Elastic Stop Nuts solve problems of: (1) pre-stressing bolts for proper load distribution (2) setting and maintaining proper spring-loaded adjustments (3) protecting bolt threads against corrosion (4) providing the feature of re-usability—without major design changes.

For a free bulletin on the uses of Elastic Stop Nuts write to Elastic Stop Nut Corporation of America, Union, N. J.

▼ BREVITY—directly to IEN-9951 if you write the maker ▼

## This Book is Full of Ideas For You:

dozens of actual plant studies of *Resistance Welding* of everything from roller skates to racing cars. Methods, machines, jigs, fixtures, facts, figures are discussed and illustrated. You are welcome to a free copy of this interesting and educational booklet "Resistance Welding at Work" without any obligation whatsoever. Just write to:

**SCIAKY**

SCIAKY BROS., INC., 4911 W. 67th St., CHICAGO 38, ILL.

▼ BREVITY—directly to IEN-9952 if you write the maker ▼

# METAL *Spinning*

Complete facilities for sheet metal working and spinning of all metals — including stainless steel — are available at Teiner. Blanks ranging in diameter from up to 16 feet to the size of a thimble may be spun to meet tolerances formerly limited to other methods. Designs regularly in production at Teiner include stainless steel shrouds, aluminum reflectors, metal hemispheres, guards, baffles, parabolic shapes, flanged and dished heads. Estimates prepared promptly from your samples or drawings — consult Teiner and save time and money.

ROLAND TEINER *Company, Inc.*

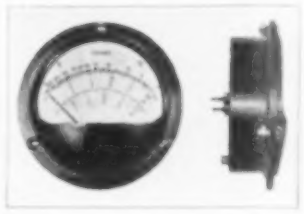
METAL SPINNING AND ENGINEERED PRODUCTS

134 TREMONT STREET, EVERETT 49, MASSACHUSETTS, Tel. EVerett 7-7800

▼ BREVITY—directly to IEN-9953 if you write the maker ▼

## METER . . For electrical readings, hermetically sealed, has 4½ in. dial

Source: MARION ELECTRICAL INSTRUMENT CO.
50 Stark Street Gate, Manchester, N. H.



**Type HM1** is a new 4½-in. size in the company's line of hermetically-sealed ammeters, voltmeters. Each has a depth of 1⅞ in. back from the panel front. One or two per cent accuracy can be specified. Dials can be standard or specially calibrated. A rubber gasket is supplied as a pressure seal for panel mounting.

**In addition** to the special ohmmeter shown in the illustration the line includes dc instruments with ranges from 20 to 800 microamperes, 1 to 800 milliamperes, volt ranges, at 1,000 ohms per volt, from 1 to 500 volts with an internal multiplier. Ranges for ac include 1 to 500 volts on 400 ohms per volt including an internal rectifier or multiplier, and 15 to 100 milliamps, full scale deflection.

▼ BREVITY—directly to IEN-9954 if you write the maker ▼

## CLEANING . . Monel ribbon pad for no-scratch scouring applications

Source: KLEENETTE MFG. CO.
1267-71 W. North Ave., Chicago 22, Ill.

**Can be rinsed for repeated use**

Monel Metal ribbon is curled and processed into a new kitchen pad to be employed in cleaning metal and non-metal surfaces. It is suited particularly for food handling equipment and for cleaning applications where a corrosion proof medium, soft and non-scratching material is required.

▼ BREVITY—directly to IEN-9955 if you write the maker ▼

## TESTING . . Vibration indicator for machines, bearings, rotating shafts

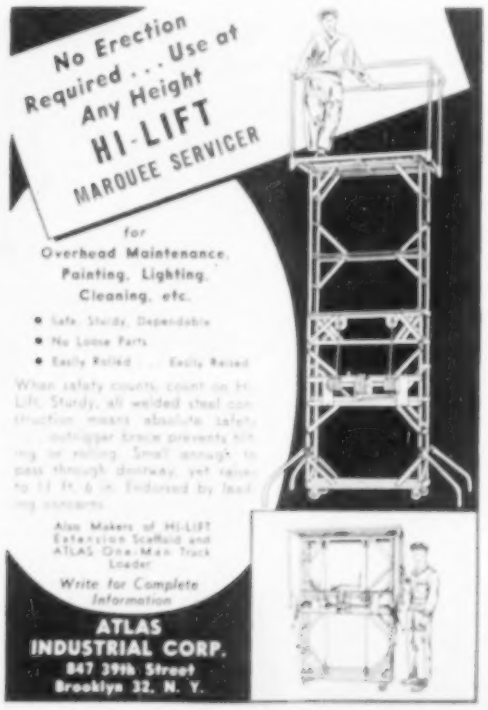
Source: VIBROSCOPE CO.
6 E. 39th St., 7th Floor, New York 16, N. Y.

**Model F** is a new design in the step-scale indicating head of the company's balancing equipment previously described IEN-1217-41. The head alone is known as a Vibrometer and reads amplitude of vibration in a machine housing, bearing or rotating shaft. The last named application employs a special rigged probe that can be held in contact while the shaft is in motion.

**The probe** picks up the vibration and causes a small mirror to oscillate and reflect light from an incandescent lamp in the housing to a ground glass scale. Width of the ribbon of light on the scale indicates amplitude of the vibration. Two models provide 125 and 250X amplification.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—directly to IEN-9956 if you write the maker ▼

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# DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT . . . add attraction—safety—service?

*Ask* DIALCO

THIS MAY BE THE ONE

Designed for low cost NE-51 Neon

• Built-in Resistor • Patented
• U/L Listed • Rugged

Catalogue Number 521308 — 997 for 110 or 220 volts

SAMPLES for design purpose NO CHARGE

*NEW!* Write for the HANDBOOK OF PILOT LIGHTS

Write us on your design problems.

*Foremost Manufacturer of Pilot Lights*

**The DIAL LIGHT COMPANY of AMERICA**

900 BROADWAY, NEW YORK 3, N. Y.

▼ BREVITY—directly to IEN-9958 if you write the maker ▼

## NOW! A wiping tissue 100% grit-free

To make your cleaning operation efficient—economical, Fresh/Soft/Disposable Kimwipes* industrial wiping tissues. Polish finished surfaces without scratching. Blot up to 15 times their weight in liquids. And so inexpensive, you can use a new tissue every time.

*Write for further information and name of the Kimwipes distributor nearest you.*

Kimberly-Clark Corporation
Neenah, Wisconsin

▼ BREVITY—directly to IEN-9959 if you write the maker ▼

# HANSEN TACKER *for* 1001 uses

CHAIR seat covers—with a saving of 4c per seat—with neater, faster work—are being tacked with the Hansen Model T-2 Tacker.

Lee L. Woodard Sons Co., Owosso, Mich., use this modern method. They find the Tacker does a more efficient job. It provides neater seat covers, held securely in place.

Submit your tacking and fastening problems to Hansen, with sketch, sample and details.

*Request Booklet*

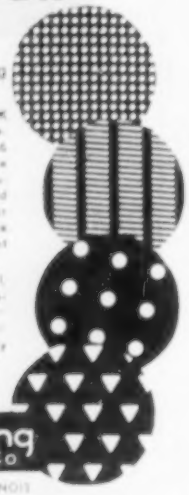
HANSEN

**A.L. HANSEN MFG. CO.**
5051 RAVENSWOOD AVE., CHICAGO 40, ILL.

BREVITY—Identify by IEN - 9960 if you write the maker

# Perforated SCREENS for FILTERS

Stronger, Easier Cleaned, Always Accurate with H & K



- Smooth Surfaces
- Uniform in Size, Shape and Spacing
- Correct Material for Every Use

ELIMINATE GUESSWORK—choose H & K Perforated Screens for Filters. Here is precision workmanship—representing over 66 years of perforating experience. Your choice of patterns is practically limitless, with accuracy of hole size and spacing. Ratness and proper selection of materials are the major considerations. Rough edges and burrs are held to a very minimum, ensuring you constant protection against dirty, inefficient screens.

Perforated Metals—Stainless Steel, Monel, Inconel, Aluminum, etc., and Perforated Non-Metals—Plastic, Foil, Plywood, Rubber, etc.—nearly every sheet, plate or coil material of your choice is endless at H & K. Write today for complete information.

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The Harrington & King Perforating Co.

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BREVITY—Identify by IEN - 9961 if you write the maker

All new styles of Bokum Boring Tools have combined helical and spiral relief that give these advantages over ordinary boring tools:

—constant clearance throughout life of tool
—sharp of cross cutter remains constant
—easy resharpening by grinding flat face only
—available in wide range of sizes, etc. and so

*Ask for any of these catalogs*

N 1194 for super high speed
N 5194 for carbide-tipped tools
N 50 for solid tungsten carbide
N 81 } for resharpening fixtures
N 95 (2)
N 40 for appropriate tool holders

BOKUM TOOL CO.
14773 WILDEMERE AVE. • DETROIT 21, MICH.
SINGLE POINT BORING TOOLS—INTERNAL THREADING, SHOULDERING AND FACING TOOLS—CARBIDE TIPPED TOOLS

BREVITY—Identify by IEN - 9962 if you write the maker

*Control Costs with*

# COUNTING SCALES

Toledo's complete line of Counting Scales gives you the right model for accurate cost control in a wide range of jobs! For counting predetermined quantities of uniform parts . . . counting unknown quantities . . . for faster payroll count . . . to get accurate receiving, shipping, production, cost and piece-work counts. Complete selection of models . . . for parts weighing only a few grams . . . up to total counting capacities of several tons. Also choice of double and triple color combinations. Send for booklet 2204. Toledo Scale Company, Toledo 12, Ohio.

**TOLEDO**

HEADQUARTERS FOR SCALES

BREVITY—Identify by IEN - 9963 if you write the maker

## GAGE . . Ionization vacuum unit reads pressures to 5 x 10-10 mm. hg.

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 868-A, Pittsburgh 30, Pa.

New gage resembles a triode vacuum gage structurally. It encases two filaments, one a spare, a grid and a fine-wire ion collector. The assembly is in a hard glass enclosure measuring 2 in. in diameter by 5 in. in height. There is a minimum of metallic surface to facilitate outgassing the elements by electron bombardment at temperatures above 1,000 deg. C. with power under 100 watts. The gage operates on standard power supply, is furnished with a tabulation for direct reading.

The reading is made of the current on the ion collector on the basis that gas density in an evacuated space is proportional to the number of ionizing collisions for a given electron current.

BREVITY—Identify by IEN - 9964 if you write the maker

## CLEANING . . Rotary brush machine to scrub, sand, wax and polish a floor

Source: UNITED FLOOR MACHINE CO.
7602 S. Greenwood Ave., Chicago 19, Ill.

Model 1124 is a new 12-in. unit in the company's line of floor cleaning machines. It weighs 68 lb., is driven by a cushion-mounted General Electric motor with control at a foot safety switch for either hand operation at the steering handle. Mounting is on 3-in. self-raising rubber wheels. The housing is surrounded by a rubber bumper that will not leave a mark. Power connects through a 35-ft. extension cord.

BREVITY—Identify by IEN - 9965 if you write the maker

## STORING . . How to handle records described in booklet on indexing, filing, storage

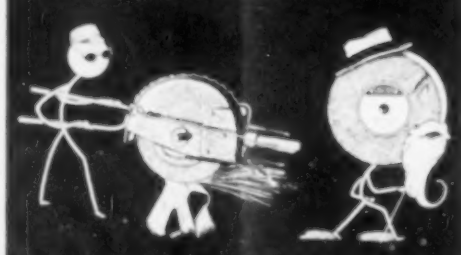
Remington Rand Inc.
315 Fourth Ave., Room 1219, New York 10, N. Y.

Indexing is treated at length in new 40-page Form LBV 28, "How to Simplify Your Files and Filing Systems". Index methods are described for filing by individual and company names, alphabetic order, group-name sounds, location, numbers, subject and relationship. Allied subjects include sorting, storage equipment, reminder tie, charge-out, cross-reference retention and transfer, microfilm storage.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 9966 if you write the maker

For the Combination of . . . .



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that means maximum economy on each of your Rough Grinding Jobs . . . . Specify NORTON Wheels

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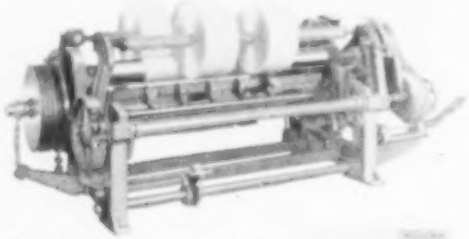
BREVITY—Identify by IEN - 9967 if you write the maker

# Camachine® 28-3D

A fast slitter-rewinder specially designed to produce top-quality rolls of coated or tacky papers and fabrics



**Another great Camachine!** The 28-3D, featuring an exclusive slitter, produces top-quality rolls of uniform density regardless of variations in the volume of the material. Positive web tension is secured by the use of two separate coated shafts. Handles web up to 12" wide at speeds up to 700 f.p.m. Produces rewound rolls in diameter up to 14" or 16" with core diameters from 3" up to 30" dia. Write for Bulletin 3020.

CAMERON MACHINE COMPANY
61 POPLAR STREET • BROOKLYN 2, N. Y.

BREVITY—Identify by IEN - 9968 if you write the maker

# CORROSION-RESISTANT TYGON PAINT

Use Tygon Paint to protect structural steel, tanks, process equipment, etc. from attacks by acid fumes, condensates or spillage. Apply cold by spray gun or brush to metal or concrete. Air dries within minutes. White, black, clear and a wide range of colors.

- Resists acids, alkalies, water
- Tough and elastic, won't chip
- Non-oxidizing
- Non-flammable when dry

WRITE FOR BULLETIN 712

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*Since 1865*
AKRON, OHIO
MANUFACTURERS OF CORROSION-RESISTANT MATERIALS AND EQUIPMENT

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| ✓ MILLING | ✓ PUNCHING |
| ✓ DRILLING | ✓ BENDING |
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*GRIPPING FORCE 15 TIMES AIR LINE PRESSURE*

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving both hands free to position work. Jaw opens up to 3 inches, holds castings, parts, pipes, etc. Compact and trouble-free.

*Complete with Foot Control, Air Hose and Fittings* . . . only $29.90

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AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

REFIT—Identify by IEN-9970 if you write the maker

NOW! EFFICIENT BAG CLOSING FOR SMALL PLANTS

HERE is the popular, economical Union Special Suspended Head Bag Closing Machine that offers many plants an excellent solution for handling varying volumes of work. Check these features: Easily installed anywhere in your plant with overhead pulley and counterweight or top balancer! Built-in motor, thumb-controlled clutch, and automatic brake! Plug it in and go to work! Adaptable to fabric or paper bags of various sizes!

SEND FOR THIS NEW BULLETIN!

Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE COMPANY, 410N Franklin St., Chicago 10, Ill.

UNION SPECIAL

REFIT—Identify by IEN-9971 if you write the maker

# Another BRAND NEW H SWITCH with wide applications

Model 2160A

A *double pole, single throw* toggle switch, this completely new "Diamond H" product incorporates all these long-wanted features:

- **Compactness** . . . switch body measures only 1-15/16" x 1-9/16" x 1" . . . entirely enclosed for safety and protection of working parts.
- **Quick, simple installation** . . . single and tidy spring clips hold firmly on panel .025" to .081" thick. Overlapping shoulders permit ample tolerances in panel dimensions or installation hole.
- **Good looks** . . . with plastic body in standard brown, black and white or color panels of special order.
- **Long life and positive action** . . . through rugged construction and a design principle that's new and exclusive in this application. Contacts are held together in "on" position under pressure of spring action.
- **High overload capacity** . . . conservatively rated at 15 and 20 A, 125 V; 10 A, 250 V, and up to ½ H. P., 250 V, A. C.

Applications include motor and heater circuits in portable appliances such as hot plates and fan type heaters, together with heavy parts, air conditioning equipment, cooking ranges, ovens, etc. . . . consider any such circuit that requires control. Feel free to call a Line at the same time.

If you want to simplify control and save time, use "Diamond H" switches on your products.

THE HART MANUFACTURING COMPANY
253 Bartholomew Ave., Hartford, Conn.

REFIT—Identify by IEN-9973 if you write the maker

## CONTROL . . Pneumatic operator regulates dampers, feeders, rheostats

Source: BAILEY METER CO.
1065 Ivanhoe Road, Cleveland 10, Ohio



Characteristed control diagram (the new assembly of double acting piston-type power cylinder, power transmitting lever and air operated post operating valve with its non-positive cam). The equipment applies stroke or in-between-load assemblies as for the dampers, stoker drive and coal feeder on a boiler. The cam mechanism operates in connection with a control valve and spring so such that will act on changing conditions for predetermined control characteristics.

**The power cylinder** is available with 6 or 8 in. bore and 8 or 16 in. stroke. In each case the power lever is operated through a bending arc; supply pressure can be 40 or 50 lb. for 280, 450, 1,000 or 1,500 lb. lb. of maximum torque. Actuating air pressure is taken from a pneumatic controller operating from the control point on the equipment served. A change in this pressure as small as 3 lb. is sufficient for action at full torque rating. Sensitivity is adjustable.

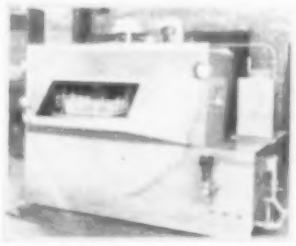
**Three cams** are supplied with each assembly for interchangeable application. One shows positions proportional to the first power, one is the square and one is the square root of the actuating control pressure. Special shapes can be developed easily. Assembly is in a steel enclosure for protection against dust, weathering, moisture, inherent or outside. Adjustments provide for quick change between power and hand operation of the equipment.

**General Specification** CA-102, 10 pages, presents illustrated description of the control equipment, associated parts, typical arrangements, dimensional drawings.

REFIT—Identify by IEN-9974 if you write the maker

## CLEANING . . Washing machine, turntable design, includes air blowoff

Source: G. S. BLAKESLEE & CO.
52nd Ave. & 19th St., Chicago 50, Ill.

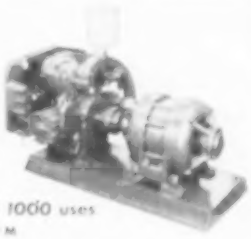


Work in baskets, or in special fixtures, rolls a turntable in this new machine to pass through spray washing, drain and air-blowoff areas back to the loading and unloading station. The machine has capacity for 20 baskets of 1½ cu. ft. rating in an hour. It is available in larger or smaller sizes also to handle specified work. A motor driven pump circulates the washing solution. Air connects from a shop line. Correct temperature is maintained in the solution by a bellows-operated thermostat controlled valve on the heating line.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

REFIT—Identify by IEN-9975 if you write the maker

# JOY WL-80 "UNITAIR"



the Compressor of 1000 uses
81 to 640 CFM

- ★ A size for every standard motor rating
- ★ Air cooled . . . Two stage
- ★ Force-feed lubrication
- ★ Small floor-space requirements

*Write for this FREE HELP!*

New 16-page Bulletin A-50 has complete details and a Selector Chart to help you choose the right compressor for your needs.

*Consult a Joy Engineer*

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
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GALT, ONTARIO

REFIT—Identify by IEN-9976 if you write the maker

# NOW! you can afford quality control

QUALITY-CONTROL INDICATOR

- first and only *instantaneous automatic quality-control*
- instantly pinpoints rejects on one or more production lines
- minimum investment and no additional personnel required

For detailed information, write for GEC 429 to Section 687-38, Apparatus Dept., General Electric Co., Schenectady 5, New York.

GENERAL ELECTRIC

REFIT—Identify by IEN-9977 if you write the maker

# NO SEAT!

TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

Cross section of Type "B" Seat Iris Angle Valve, Flanged.

The Yarway Seatless Blow-Off Valve eliminates the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

*SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.*

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

REFIT—Identify by IEN-9978 if you write the maker

# THE BRUTE

ARO HEAVY DUTY VERTICAL GRINDER

- IT'S BIG — yet weighs only 11 lbs.!
- BIG POWER — try it . . . find out for yourself!
- BIG TIME PERFORMANCE — easy to handle . . . safety throttle
- TRY IT — contact your ARO distributor for an on-the-job demonstration.

The Aro Equipment Corporation, Bryan, Ohio
Aro of Canada, Ltd., Toronto, Ontario

ARO AIR TOOLS

BREVITY—Identify by IEN - 9979 if you write the maker

## The Tool You'll Buy on Sight

*Milwaukee* HOLE-SHOOTER

3-speed "Right-Angle" Drill has many applications

See complete Kit below

Smallest "Right-Angle" drill made, at any price, gives you suitable speeds and power for drilling in wood, metal, masonry, concrete, tile. Hole-Shooter's time-saving performance in close quarters alone, soon pays its cost. Wt., only 9 lbs. . . . full ¼ H.P. Top quality . . . amazing value. Write Milwaukee Electric Tool Corp., 5300 W. State St., Milwaukee 8, Wis.

*Milwaukee Tri-Speed Kit "412" includes . . .*

1. 3-speed "Right-Angle Drive" HOLE-SHOOTER, ball and roller bearings, Jacobs geared chuck, 450 R.P.M.
2. "3-speed "Right-Angle Drive" — low speed 300 R.P.M., high speed, 675 R.P.M.
3. 5 special bits — ¼", ⅜", ½", 5/8", 3/4".
4. Special wrench for speedy adjustment of "Right-Angle Drive" and chuck.

Complete Kit $87.00 *Fed. Pending

*Milwaukee* QUALITY TOOLS

BREVITY—Identify by IEN - 9980 if you write the maker

Metal decorative bands stapled to wooden shakers

Metal hinges and fibre bindings stapled to fibre case

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Your product may be entirely different from those illustrated on this page. But the chances are the materials you fasten are similar to one or more. Each of these manufacturers speeded up assembly, cut fastening costs, improved product appearance or increased product strength by switching from old methods to Bostitch machines. More than 800 different Bostitch machines for stapling, tacking and wire-stitching promise you a better, faster, lower-cost solution to your fastening problem. *Investigate!* Mail the coupon below . . . today.

Sole held securely by big ring staples

Cloth wire stitched to metal buffing wheel discs

Staples speed assembly of wooden drawers

Hog-ring staples hold fish net to frame

Wire oil filter cores locked together by staples

Each staple replaces three spot welds

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Please send me literature describing the Bostitch machines you believe will help me cut my fastening costs.

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ALL TYPES OF MACHINES FOR APPLYING STAPLES

ALL TYPES OF STAPLES APPLIED BY MACHINES

Trade Mark "Bostitch" Registered U.S. Patent Office and Foreign Countries

BREVITY—Identify by IEN - 9982 if you write the maker

## VALVE . . Flow throttling design for use in hot-water circulating lines

Source: KEYSTONE BRASS WORKS
945-49 W. 12th St., Erie, Pa.

**Two elbow designs** have been added to the company's Copperflow line of flow-throttling valves to apply in balancing the hot-water flow through branch circuits in a space-heating installation. The valves are available in ⅜, ½ and ¾-in. sizes with the stem in horizontal or vertical position, to employ a handwheel as shown or to be fitted for rotation by a screw driver. The valve permits sufficient flow in closed position to prevent freezing. It throttles for flow adjustment between that point and full open.

**The outlet end** is equipped with a threaded union connection. The inlet end carries a socket for solder or braze connection to a copper pipe line. Bodies are made of bronze. List price for handwheel operation is $2.35 to $2.80. It is $1.85 to $2.30 for screw driver adjustment.

**Catalog 50**, 28 pages, illustrated information on the Copperflow line of fittings, valves, tools, accessories for copper-line space-heating installations. Sizes, list prices are included.

BREVITY—Identify by IEN - 9983 if you write the maker

## SWITCH . . Single throw toggle, double pole, 20 amp. on 110 volt ac.

Source: HART MFG. CO.
108-12 Bartholomew Ave., Hartford 6, Conn.

**Model 2160-A** is new design in the company's line of Diamond Hinge toggle switches. The switch is designed for heavy applications in motor and heater circuits in portable-ungrounded appliances which require cutting both sides of a line at once.

**The plastic body** applies in a square opening where it snaps into place. Dimensions are 1⅞ in. in square and on by 1 in. in height. The holding clips apply to panels measuring .025 to .100 in. in thickness. Brown, black, white or other color can be specified.

BREVITY—Identify by IEN - 9984 if you write the maker

## MANAGEMENT . . Safety training film shows hazards encountered in handling freight

National Safety Council
425 N. Michigan Ave., Chicago 11, Ill.

**"Happy Jack"** is the cartoon character who shows all the wrong ways to handle freight in new training film, "Freight Handling Safety". Following this sequence are four others that show how even careful workmen can have accidents. How to prevent these accidents is described in detail. The film is available as a 35-mm. sound slide at a list price of $96 and a 16-mm. motion picture at a list of $90. It also can be rented.

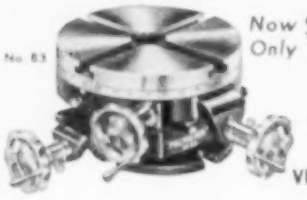
*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN - 9985 if you write the maker

## DUAL CROSS and ROTARY FEED

# PALMGREN

*Rotary, Index, Milling Table*



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Think what this will mean in your shop! Can be used on any Drill Press, Lathe or Milling Machine and provides what is practically a universal milling machine.

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Rotary and graduated in degrees. Cross feed in thousandths. Dual Cross Slide with cross feed 2½" each side of center of 4½" overall. Has acme thread cross feed screws, adjustable gibs on cross slides, 40 to 1 worm and gear ratio on rotary feed. Equipped with feed stops and locking screws.

No. 83 Table Dia. 8", T Slots ⅝", Base Keyway ⅝". Base Dia. 6¼", Ht. 5", Wt. [illegible] lbs. Price Only $49.50. Other Types available. No. 82 Dual Cross Feed only $39.75. No. 86 Rotary Feed Only $42.50.

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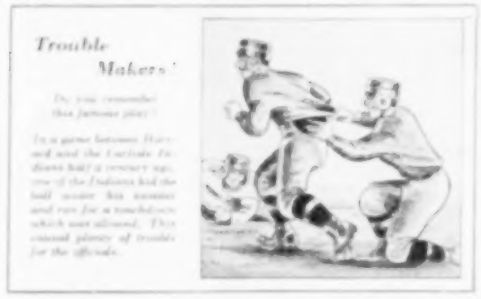
Mfrs. of PALMGREN PRODUCTS Since 1918
8406 South Chicago Ave. · Chicago 17, Ill.

BREVITY—Identify by IEN - 9986 if you write the maker

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*Stop them in your plant with*

## TORIT DUST COLLECTORS

Torit Dust Collectors trap abrasive dusts at their source. They cannot become a health menace, or lower the efficiency of your plant.

Torit Dust Collectors are self-contained. Compactly designed they require little space, and can be installed wherever convenient. They clean the air so thoroughly that it is recirculated into the room, thus eliminating heat losses.

Torit Dust Collectors are economical to purchase and install. They fit most standard grinding, cutting and polishing machines and can easily be adapted to meet special conditions. For details and the Torit Dust catalog, write:

TORIT Manufacturing Co.
206 Walnut St., St. Paul 2, Minn.

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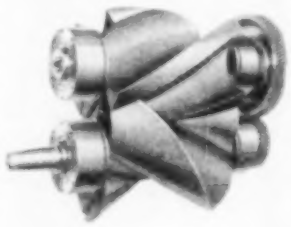
*Features Two More Vital Components:*

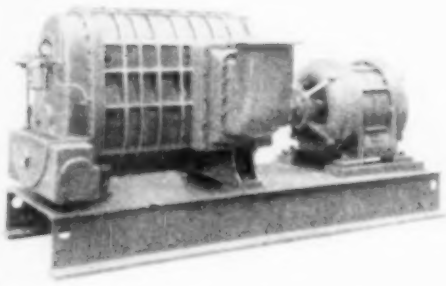
**PRECISION ROLLER BEARINGS**—spherical type are used on the fixed ends of the rotor shafts and a cylindrical type on the floating ends. With such a design free aligning action of the rotor shafts is assured and specific speed, load, and service requirements are easily met. In addition, this bearing construction fully compensates for any housing distortion which might occur due to temperature differentials.



**LABYRINTH TYPE OIL SEALS**—Bearing and gears are lubricated by a spray of filtered oil. The oil is controlled by a balanced pressure, labyrinth type seal which gives complete oil control and assures absolutely clean air delivery under all operating conditions.

•

Such features as precision bearings—frictionless oil seals—hardened, shaved, helical gears—contribute immeasurably to the efficient and dependable performance of the Standardaire Blower. A Modern Machine with Superior Operating Characteristics. For further information write The Standard Stoker Company, Inc., Dept. C-21, 270 Lexington Avenue, New York 17, N. Y.



Standardaire Blower No. 105B21 and motor, mounted on common base, for direct drive through flexible coupling to deliver 3200 c. f. m. at 1750 r. p. m.

THE STANDARD STOKER CO. · INC.

**Standard Stoker**

NEW YORK · CHICAGO · ERIE · MONTREAL

▼ REPRINT—Identify by IEN-9989 if you write the maker ▼

BRISTOL'S MULTIPLE-SPLINE
SMALL WIRE-SIZE SOCKET SET AND CAP SCREWS

Never before . . . convenience of internal wrenching . . . plus exclusive *strength* of multiple-spline socket shape . . . *in sizes as small as No. 1, 2 and 3 wire!*

Only with Bristol's Multiple-Spline Socket Screws do you get strength *from the socket shape* as well as the metal. No expanding pressure . . . no bursting or rounding-out of socket walls.

Sets up quickly, stays tight, yet is readily loosened by wrench. Ideal for cameras, dental and surgical instruments, etc.

**BRISTOL'S** SOCKET SCREWS

*FREE SAMPLES Address THE BRISTOL COMPANY, Mill Supply Division, 107 Bristol Road, Waterbury 20, Conn.*

▼ REPRINT—Identify by IEN-9990 if you write the maker ▼

**ONLY the New DUALOC gives you these 4 IMPORTANT ADVANTAGES—**

1. **PREVENTS FATIGUE FAILURES.** Complete flexibility with Double Hinging action. No place for hidden failures due to vibration.
2. **COMPLETE, ACCURATE INSPECTABILITY.** No wrappings, tapings or solderings. You can always know the exact condition of your Boom Cables.
3. **COMPLETE ADAPTABILITY.** Endings have same dimensions as zinced sockets—can be installed without alteration to present equipment.
4. **NO LOWERING OF WIRE ROPE STRENGTH.** Strength in all parts equal to full catalog strength of the wire rope. You have full assurance of all the strength built into your equipment.

**DUALOC Boom Cables are ACCO-Registered.** This is assurance of highest quality workmanship and top quality material—Preformed Green Strand Improved Plow Steel Wire Rope.

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ACCO

**AMERICAN CHAIN & CABLE**
WIRE ROPE SLING DEPARTMENT

DUALOC BOOM CABLE ASSEMBLIES

*In Business for Your Safety*

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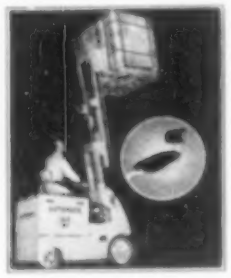
## TRUCK . . Power lift design. 12 models, load rating ½ to 2 ton

Source: AUTOMATIC TRANSPORTATION CO.
109 W. 87th St., Chicago 20, Ill.



The operator rides on a fore-and-aft cushioned rubber-cushioned bucket seat in this new design of the electric Type-HF truck. He operates the controls grouped in front of him for forward, reversing, lift, tilt and steer. The new trucks have capacities 500 to 1,200 lb. with stepped mast height at 83 to 1[illegible] from the floor.

Electrical controls are enclosed on an enclosed removable panel. Non-controller design prevents reversing the drive motor until the truck has been brought to a standstill. Removal of several of the rear pedestals, including the tilt tube, permits accessibility for maintenance. Welding and riveting have replaced bolted assembly at important points. Steel or cushion-type tires are interchangeable by changing the wheels.

▼ REPRINT—Identify by IEN-9993 if you write the maker ▼

## CLEANING . . Liquid chemical removes paint, wax, grease from wood

Source: GENERAL LIQUIDS CORP.
127 E. Baltimore St., Baltimore 2, Md.

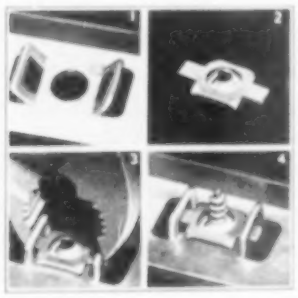
Packaged in pints to 50 gallon drums

Liquid Sandpaper, trade name, new liquid for application on a painted or enameled wood surface to soften the dry coating and permit its removal with fine steel wool. It can be used on a cloth to remove wax, grease. Roughened coatings and sand the surface ready to receive a new finishing coat.

▼ REPRINT—Identify by IEN-9994 if you write the maker ▼

## FASTENING . . Sheet metal nut is secured by lugs punched in the work

Source: PRESTOLE CORP.
1325 Miami St., Toledo 5, Ohio



Type P-1029 is a new nut in the company's "shoe" metal nut line. It carries fingers on two sides to position above the punched in the work sheet on which the nut is to hold. It is secured in place by bending the lugs up square with the work surface. The company supplies the required tools to make the lugs in conjunction with the sale of the nuts. Sizes are to order.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ REPRINT—Identify by IEN-9995 if you write the maker ▼

# TEFLON STOCK

**Sheets**
**Cylinders**
**Rods**
**Tubing**
**Bars**

*IMMEDIATE DELIVERY*

We supply Teflon stock in any quantity without delay. Our selection, the most complete in the country, includes many special items, such as uncrinkled sheet Teflon (starting at 1/16" thickness), in sizes up to 36 x 36'—the largest sheet Teflon offered anywhere.

Teflon, DuPont's new wonder plastic, is unequalled for chemical inertness, adhesion resistance and dielectric strength. Teflon cannot be attacked by our contaminate any industrial acid, solvent, caustic, oil, gas, etc. It's extremely tough and suitable for temperatures from —150° F. to 550° F. (recommended for higher temp. in some cases). Teflon is the perfect answer to squeless product and equipment problems throughout the processing, chemical and electrical industries. Teflon stock is easily machined or cut into whatever parts you need, so whether you're ready for quantity production or merely wish to evaluate, send us your requirements. We can help you cut costs in many ways.

For complete information on Teflon and Teflon stock, write for Catalog No. 300. We also manufacture Teflon parts, supplying special shapes molded exactly to your specifications.

*Teflon Products Division*

**UNITED STATES GASKET COMPANY**
658 N. 10TH STREET • CAMDEN, NEW JERSEY

▼ REPRINT—Identify by IEN-9996 if you write the maker ▼

# GET THE *Thor* STORY

ON PORTABLE ELECTRIC

# SANDERS

*WRITE FOR CATALOG E-2*

Five popular sizes and speeds . . . every one packing 50 percent more power than any tool in its class. . . . Thor Silver Line Disc and Belt Sanders do any sanding job better — at lower cost! Ask your Thor distributor for a demonstration.

DISC

7", 9" DISCS

BELT

With or Without Dust Collector

Belt Sanders
Bench Grinders
Drills
Grinders
Hammers
Impact Wrenches

*Thor* PORTABLE POWER TOOLS

Nibblers
Nut Setters
Polishers
Sanders
Saws
Screwdrivers

**INDEPENDENT PNEUMATIC TOOL CO., AURORA, ILL.**

▼ REPRINT—Identify by IEN-9997 if you write the maker ▼

## This NEW booklet

tells you how to increase the life of wearing parts

Every manufacturer or user of metal parts—every welding engineer, master mechanic, maintenance superintendent, and plant foreman—should have a copy of the really complete booklet on hard-facing. It takes all the guesswork out of choosing the right alloy, the right welding process, and the best welding procedures for applying the rod.

Ask for "Haynes Alloys—Hard Facing Manual."

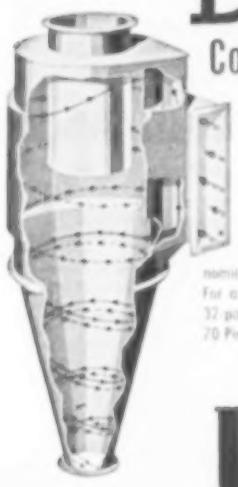
**Haynes Stellite Division**
**Union Carbide and Carbon Corporation**
**General Offices and Works, Kokomo, Indiana**

"Haynes" is a trade mark of Union Carbide and Carbon Corporation.

▼ REPRINT—Identify by IEN-9998 if you write the maker ▼

## Want the Answers on

# Dust Collection and Recovery?



Every industrial engineer should know about the patented van Tongeren "shave-off". Exclusive in the Buell dust collection system, it makes possible dust collection that is efficient yet economical. Buell design eliminates plugging. For a full description, write for the new 32-page catalog to: Buell Engineering Co., 70 Pine St., Suite 5030, New York 5, N. Y.

**buell**

Engineered Efficiency in **DUST RECOVERY**

Manufacturing in the U. S. & Canada for Shipment Throughout North & South America

▼ BREEZE IT—Identify by IEN - 9999 if you write the maker ▼

# Automatic Batch Counter

Counts tens, dozens, hundreds or any predetermined quantity and automatically controls marking, separating or packaging equipment

MONITOR Automatic BATCH COUNTERS

*Monitor Electric Batch Counter,* counts any *BATCH Quantity* of parts, packages, sheets, measurements or operations and automatically controls Batch Marking or operating devices, pile changers, kick out devices, conveyors, etc., without slowing down production or missing a single count.

Proved thru more than ten years use. Extremely adaptable. Tell us what you want to do or send for Bul. MBC-52.

8 pages of Batch Counting Case Histories, application information, etc. Send for Bul. MBC-52.

Production Instrument Company
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities



▼ BREEZE IT—Identify by IEN - 10000 if you write the maker ▼

Wheeler GLASS-ENCLOSED FLUORESCENT FIXTURES
FOR SEVERE SERVICE CONDITIONS

DUST-TIGHT and VAPOR-TIGHT

Two popular units, their performance proved in actual operation! DUST-TIGHT for hazardous locations and VAPOR TIGHT for non-hazardous locations. Easily installed . . . economically maintained!

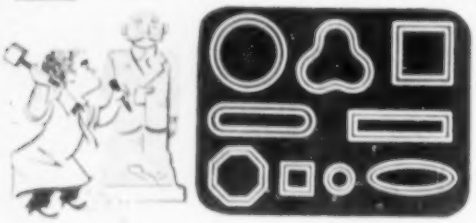
For complete information write Wheeler Reflector Co., 275 Congress Street, Boston 10, Massachusetts

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881



▼ BREEZE IT—Identify by IEN - 10001 if you write the maker ▼

"Shape" is important in small tubing too!



When you have a design or production problem involving small tubing, shape may be all important. At Superior we draw round or shaped tubing to standard specifications, or to your own designs, in excess of analyses of Carbon, Alloy and Stainless Steel, Nickel, "Monel", "K Monel", "Inconel" and Beryllium Copper. The tubing is furnished in cut, multiple or random lengths, accurately dimensioned to close tolerances, with bright drawn inside and outside finish.

Get more information about Superior Tubing now. Review your requirements with a Superior representative, without obligation. Write today.

FREE—Ask for a copy of Bulletin No. 31. It's packed with tubing data.

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THE BIG NAME IN SMALL TUBING
All analyses .010" to ⅝" O.D.
Carbon analyses (.031 max. wall) up to 1⅞" O.D.
SUPERIOR TUBE COMPANY • 8010 Germantown Ave., Norristown, Pa.


# NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, sale films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are noted.

▼ BREEZE IT—Identify by IEN - 10002 if you write the maker ▼

**BRONZE . . Machining instructions in booklet on company's aluminum bronze alloys**

Ampco Metal Inc.
1745-47 S. 38th St., Milwaukee 14, Wis.

**Recommended practice** is given in new 12-page Bulletin 66-A on turning, boring, grinding, honing, milling, machining, drilling, reaming, tapping various grades of the company's Ampco Metal. Tool drawings and dimensions, recommended speeds and feeds, machining weld deposits are other topics covered.

▼ BREEZE IT—Identify by IEN - 10003 if you write the maker ▼

**CASTING . . Details on the Croning process to produce sand cores and molds for foundry use**

Barnes-Dunne
30 E. 42nd St., Room 1202, New York 17, N. Y.

**Photographic description** is employed in new 16-page Bulletin K-8 on the Croning Process of making foundry molds and cores. Illustrated steps include positioning the hot metal pattern, paint, approval, a resin-sand mixture, removal of the hood-cited, pouring into this mold, removal of the casting.

▼ BREEZE IT—Identify by IEN - 10004 if you write the maker ▼

**CASTINGS . . Prize contest for technical papers on steel castings**

Steel Founders' Society of America
20000 Mohican Road, Cleveland 18, Ohio

**$1,000 in prizes** is offered in a new award program that closes December 1, 1960. Technical papers may cover new designs, substituted steel castings, conversions.

▼ BREEZE IT—Identify by IEN - 10005 if you write the maker ▼

**CASTINGS . . Notes on product design in new series of data leaflets on castings**

Investment Steel & Malleable Castings Co.
817-D Glenville Harbor, Boston Harbor, Mass.

**A steel casting** is the subject of each of the first three data leaflets in new series of "Case Histories". Each leaflet describes the problem, the analysis made by the company, the solution found, and the result. Your name will be added to the list to receive these and future leaflets as issued.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*


▼ BREEZE IT—Identify by IEN - 10006 if you write the maker ▼

SPECIFY Hassall specially engineered fasteners

Hassall cold headed fasteners can improve your products and save you money, even on short runs. Send us your specifications for your nails, rivets and screws . . . in diameters from 1/32" to 3/8" . . . lengths to 7" . . . in any workable metal . . . in practically any finish.

Your inquiry will be handled promptly. Ask for free catalog.

JOHN HASSALL, INC.
132 Cox Street, Brooklyn 22, New York

Hassall

▼ BREEZE IT—Identify by IEN - 10007 if you write the maker ▼

Clamp Most Anything WITH "Aero-Seal" WORM-DRIVE CLAMPS

- Hold odd-shaped connections
- Hold multiple pipes or ducts
- Conform to any shape
- No distortion—no crimping
- Vibration-proof . . . no parts lose or loosen
- Use again and again
- Made in any length
- All stainless steel bands at no extra cost

WRITE TODAY FOR FREE SAMPLE!

AERO-SEAL Worm Drive Never Works Loose

"Aero-Seal" HOSE CLAMPS

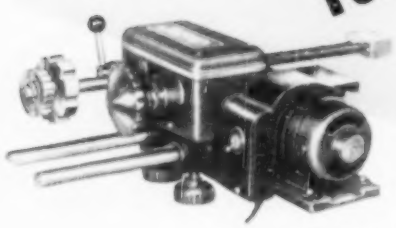
BREEZE CORPORATIONS, INC.
11 South Sixth Street Newark, N. J.

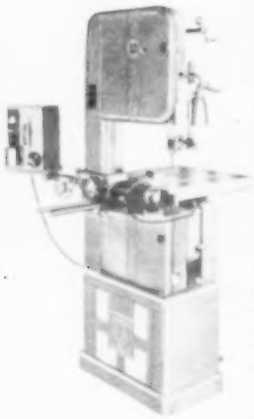


▼ BREEZE IT—Identify by IEN - 10008 if you write the maker ▼

Speeds cutting time . . . cuts production costs!

New WALKER-TURNER Power Feed





AUTOMATIC POWER FEED insures definite protection of the blade on a Walker-Turner 16" Band Saw. Motor driven and controlled by the resistance encountered at the cutting edge, this new mechanism maintains a pre-set feeding pressure. Easily adjusted for blade condition and type of material.

Here is Walker-Turner *design* at work, cutting production time and costs. Ask your W-T machine distributor to show you this new, more efficient Power Feed and other cost-cutting equipment in the complete Walker-Turner line. Send for catalog.

walker turner

Sold Only Through Authorized Dealers

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WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS
BELT and DISC SURFACERS • METAL-CUTTING BAND SAWS
METAL-SPINNING LATHES • SPINDLE SHAPERS • JOINTERS

▼ BRIEFITT—Identify by IEN-10010 if you write the maker ▼


ANGLE Gear
TRADE MARK

Standardized RIGHT ANGLE BEVEL GEAR UNITS

With Capacity of Units Many Times Their Size and Weight

Suitable for use in either manual or power operated systems beyond the limitations of ordinary commercial products. Two basic models meet the requirements of virtually all industrial applications. 1:1 or 2:1 ratio with either 2 or 3 shaft extensions.

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ACCESSORIES CORPORATION
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SOLD THRU LEADING DISTRIBUTORS


▼ BRIEFITT—Identify by IEN-10011 if you write the maker ▼

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20,000 Ohms per Volt DC, 1,000 Ohms per Volt AC
VOLTS: AC & DC—2.5, 10, 50, 250, 1,000, 5,000
OUTPUT: 2.5, 10, 50, 250, 1000
MILLIAMPERES, DC: 10, 100, 500
MICROAMPERES, DC: 100
AMPERES, DC: 10
DECIBELS: [illegible]
OHMS: [illegible]
Power [illegible] dealers net. Roll Top [illegible] dealers net.

WORLD FAMOUS
Simpson 260
SET TESTER

There are many reasons why there are more Simpson 260 high sensitivity volt-ohm-milliammeters in use today than all others combined! The Simpson 260 has earned world-wide acceptance. Your parts jobber can tell you why.

The Model 260 also is available in the famous patented Roll Top safety case with built-in lead compartment. This sturdy, molded, bakelite case with Roll Top provides maximum protection for your 260 when used for servicing in the field or shop.

*25,000 volt DC Probe for television servicing, complete, for use with 260, $12.85.*

SIMPSON ELECTRIC COMPANY
5200-18 W. Kinzie St., Chicago 44, Ill.
*In Canada: Bach-Simpson, Ltd., London, Ont.*


## NEWS NOTES—Continued

*"Booklet on floor maintenance"*

▼ BRIEFITT—Identify by IEN-10013 if you write the maker ▼

**CLEANING . . . Plant sanitation**
**the subject of a new 16-page reprint booklet**

[illegible]

Author [illegible]

▼ BRIEFITT—Identify by IEN-10014 if you write the maker ▼

**DRIVES . . . Selection data on V-belts**
**in new 40-page catalog on single and multiple belt drives**

[illegible]

Engineering data [illegible]

▼ BRIEFITT—Identify by IEN-10015 if you write the maker ▼

**DRIVES . . . Detail selection data**
**in new catalog on variable speed transmission**

[illegible]

"How it works" [illegible]

▼ BRIEFITT—Identify by IEN-10016 if you write the maker ▼

**DRIVES . . . Hydraulic couplings the subject**
**of current issue of company's house publication**

[illegible]

"Hydraulic Coupling Issue" [illegible]

▼ BRIEFITT—Identify by IEN-10017 if you write the maker ▼

**FLOORS . . . Illustrated instructions**
**on how to maintain floors of wood, concrete, tile**

[illegible]

Step by step [illegible]

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30*

▼ BRIEFITT—Identify by IEN-10018 if you write the maker ▼

Thousands of industrial uses . . . Will speed up material handling, avoid errors, cut time and costs!

FOR CODING, MARKING, PRICING, INSPECTION O.K.'s, ROUTING, FILING, WEIGHT or SIZE, IDENTIFICATION, etc.

Available in printed rolls (Perforated or unperforated)

TRANSPARENT
PRODUCTS COMPANY, Inc.
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Foremost Creators of Printed Tape


▼ BRIEFITT—Identify by IEN-10019 if you write the maker ▼


COPY
*60 times faster with*
OZALID!

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A DIVISION OF GENERAL ANILINE AND FILM CORPORATION
"FROM RESEARCH TO REALITY"


▼ BRIEFITT—Identify by IEN-10020 if you write the maker ▼


INSTEAD OF COSTLY RETRACING . . .

INGERSOLL-RAND PHILLIPSBURG, N. J.
uses new photographic materials that permit unique drafting short cuts

INSTEAD OF RETRACING [illegible]

INSTEAD OF RETRACING [illegible]

INSTEAD OF RETRACING [illegible]

Kodagraph Autopositive Materials
"THE BIG NEW PLUS" in engineering drawing reproduction

[illegible]

[illegible] Send for the new free booklet which describes them all.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak
TRADE MARK

▼ BREEZIT—Identify by IEN-10022 if you write the maker ▼

# REALOCK

## PROTECTION PLUS

- All fittings, hinges and locking devices have bolts on the inside, secure from tampering.
- Heavily galvanized by a special process, Realock Fence is weather-resistant, extra strong and durable . . . costs little or nothing for maintenance. Supplied only with malleable base with pressed steel arms (inset) in the East.

*For complete details refer to Sweet's Catalog. For free estimate consult your classified telephone directory—or write direct.*

**REALOCK FENCE**

MILWIRE SPENCER STEEL DIVISION 361 Delaware Ave., Buffalo 2, N.Y.
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Colo.
THE CALIFORNIA WIRE CLOTH CORP. 1580-1596 Bacon, Oakland 8, California

BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

▼ BREEZIT—Identify by IEN-10023 if you write the maker ▼

# 250-watt WELLER Gun

**Does All Types of Soldering!** Heavy jobs—light jobs. The Weller Soldering Gun WD-250 does *both* with the same ease and efficiency. Saves time on every job. Cuts current costs. Your Weller Gun pays for itself in a few months.

**5-SECOND HEATING** Pull trigger and you solder. No waiting. No wasted current.

**RIGID-TIP** Chisel shaped and braced for heavy duty, larger soldering area and faster heat transfer speed work.

**LONGER REACH** Gets between wiring and into the tightest spots easily.

**SOLDERLITE** Preformed spot light lets you see what you're doing all the time.

**TRIGGER-SWITCH CONTROL** No need to unplug gun between jobs. Heat goes off when you release trigger.

**DUAL HEAT** Single heat 200 watts, dual heat 200/250 watts. 120 volts, 60 cycles.

**SOLDERING GUIDE!** Get your pocket-copy of "Soldering Tips" (actual size) 32 pages packed with data. Clip coupon or write direct.

**WELLER ELECTRIC CORP.**
523 Packer Street, Easton, Pa.

▼ BREEZIT—Identify by IEN-10024 if you write the maker ▼

# Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill you can do accurate, smooth drilling, counterboring, countersinking and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon-high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match in assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are saving time in thousands of plants.

**You Harden It—We'll Drill It—With "HARDSTEEL"**

**BLACK DRILL COMPANY**
Division Black Industries
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of—BLACK DRILLING UNITS—AUTOMATIC SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

## NEWS NOTES—Continued

*"Design possibilities for polyethylene"*

▼ BREEZIT—Identify by IEN-10025 if you write the maker ▼

**GRINDING . . How a hardness gage is made described in house publication article on grinding**

Tinius Olsen
50 Easton Road, Jenkintown 6, Mass.

**Current issue** of "Grits and Grinds", company's house publication, has as its major article a description of the manufacture of the portable hardness tester made by Ames Precision Machine Works, previously described IEN 2346-49. Pictures show application of grinding methods in the production of this unit including one operation on a rubber bushing.

▼ BREEZIT—Identify by IEN-10026 if you write the maker ▼

**HEATING . . Applications of electric elements to degrease metal parts, melt fats, dry bottles**

Edwin L. Wiegand Co.
7024 Thomas Blvd., Pittsburgh 8, Pa.

**Issue No. 40** of company's house publication, "Chromalox News", describes in its front page article how electric radiant heating elements were used to degrease 31 by 20-in. sheet metal parts prior to painting. Other articles describe applications of electric elements to dry bottles prior to filling, to melt fat in a shipping drum, to melt soap stock grease.

▼ BREEZIT—Identify by IEN-10027 if you write the maker ▼

**PLASTICS . . Polyethylene and its uses described in new 24-page illustrated booklet**

Bakelite Division
30 E. 42nd St., Room 1902, New York 17, N. Y.

**Pictures** are used in new booklet, "Bakelite Polyethylene", to show product design possibilities for the plastic in packaging, in industrial products and in consumer goods. Text describes properties, available forms, fabrication.

▼ BREEZIT—Identify by IEN-10028 if you write the maker ▼

**PLASTICS . . Molding instructions on styrene-reinforced glass-fiber sheet**

Monsanto Chemical Co.
800 Monsanto Avg., Springfield 2, Mass.

**Production steps** are detailed in new Subset Development Bulletin 300-2 for articles made of styrene reinforced by random glass fibers. Continuous and hand methods are described for dipping the glass mat into Emtrex X-601 latex, then evaporating the water and fusing the pieces.

▼ BREEZIT—Identify by IEN-10029 if you write the maker ▼

**PROCESSING . . What the company makes described in new 20-page pocket bulletin**

Kimpton Co.
2547 Kimpton Bldg., Philadelphia 29, Pa.

**The story** of the business that rubber stamps built is told in new booklet available on request. It describes how the company developed from building rubber stamps into chemical construction work, for products refining, wood preserving.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZIT—Identify by IEN-10030 if you write the maker ▼

# Cut Production Costs!

YOU CAN MAKE full use of the power you buy and sell step production losses by installing Allis-Chalmers "dry-type" transformers close to the load. Dry-type transformers, spotted at load centers, reduce copper losses and improve lighting, motor and thermal efficiency. Lower secondary losses result in real savings. For example, a 10% correction in voltage will recover a 30% illumination loss or a 20% motor starting torque loss.

They're easy to mount on poles, platforms, walls or right on machines. Write for bulletin 61B6382A. A-3187

ALLIS-CHALMERS, 909A SO. 70 ST., MILWAUKEE, WIS.

**ALLIS-CHALMERS**

▼ BREEZIT—Identify by IEN-10031 if you write the maker ▼

# we're asking for it!

**Go ahead—hit us with your problem!**

Cocky? Not at all. Just confident that Masonite Hardboards can help solve your product and production problems—as they are doing on many jobs . . . in all types of industries.

Masonite Hardboards—durable, easy-to-work panels of wood made better—offer 28 distinct advantages. For example, they can be sawed, bent, routed and die-cut, are equally strong in two directions, take almost any finish. There are 59 different types and thicknesses to meet your specific needs.

Our engineers welcome the opportunity to help you. For complete technical information, write to . . .

**MASONITE CORPORATION**
111 W. Washington Street, Chicago 2, Illinois

▼ BREEZIT—Identify by IEN-10032 if you write the maker ▼

# "One today is worth two tomorrows."

—Ben Franklin's Almanac, 1737*

Until crystal balls become standard equipment for ye Board of Directors, there is no substitute for a nice profit showing on ye quarterly statement.

—Acme Steel Notebook, 1959*

Thrift and efficiency belong in business—not alone because they are good, solid business virtues.

They can also mean the difference between profit and loss.

Helping business to greater thrift and improved efficiency has been the reason for Acme Steel methods and Acme Steel products for more than 70 years. We are now working with more than 50,000 customers representing almost every industry, particularly in departments and operations concerned with packaging, shipping, materials handling.

If you would like to learn more about Acme Steel products and how they may be able to help you, write on your business letterhead and ask for free booklets on the specific products in which you are interested.

**ACME STEEL COMPANY**
Dept. IEN-100, 2838 Archer Ave., Chicago 8
There are 46 Acme Steel service offices in the principal cities of the U.S. and Canada.

*The original version of Ben Franklin, together with modern parallels, appeared in Acme Steel Notebook, 1959. We now a Frenchman for two. Find out for it.

**ACME STEEL**

Acme Steel Company has enjoyed steady, steady growth in the American business system of open competition. From 1907 we have made 100 consecutive dividend payments to our stockholders.

**Big jobs no problem.** Acme Silverstitchers are saving time, space, money throughout the country in dairy.

ACME STEELSTRAP flat steel strapping and ACME UNIT LOAD unitized shipping BAND, SEALS and TOOLS • ACME SILVERSTITCHER machines • ACME SILVERSTITCH stitching wire • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slit stock for Venetian blinds • ACME STEEL SPECIALTIES, including heavy corrugated fasteners, mirror strapping and other customer requirements • ACME STEEL ACCESSORIES—tongs, pliers, punches, tool boards, reel stands, pail holders, and many

▼ BREEZE—Identify by IEN-10034 if you write the maker ▼

▼ BREEZE—Identify by IEN-10035 if you write the maker ▼


**New 4-inch Belt Sander for Large Areas**

PORTER-CABLE *Speedmatic*

MODEL 500
$175

**DUSTPROOF**
Operator protected by exhaust bag—out of way when machine is used.

**Makes Light Work of Heavy Sanding**

New, husky—balanced to make hard jobs easy. . . . Jobs like large-area production work—where it smooths the roughest surfaces to a velvet finish. . . . Jobs like taking off stock from patterns—removing saw and cutter marks, soiled spots, digs and scratches; paint and varnish. Levels joints—fits and finishes cabinets—polishes sheet metal—burrs, chamfers, rounds corners. Handles easily without gouging or flying dust—and takes only a fraction of the time required by hand methods.

**BALANCE . . . and other Super Features Make Speedmatic 500 an Outstanding Buy**

**Greater maneuverability** through perfectly balanced weight distribution. **Improved dust collecting system** . . . bag mounting equally convenient for right- or left-handed operators. **Air cooled motor** with silent chain transmission. **25 sq. in. working area** for uniform large space sanding. **Plastic grips** that keep cool, won't chip or peel.

SEE IT AT YOUR DEALER'S OR WRITE

**PORTER-CABLE MACHINE CO.**
2709 N. Salina St., Syracuse 8, N. Y.
Manufacturers of SPEEDMATIC and GUILD Electric Tools
In Canada Write: Strongridge Ltd., St. Catharines, Ont.


## NEWS NOTES—Concluded

*"Fabricating data on tubes"*

▼ BREEZE—Identify by IEN-10037 if you write the maker ▼

**PROCUREMENT . . How to secure Government business, bulletin outlines company's service and its facilities**

Wagner Associates Inc.
[illegible]

**How Government procurement works**, why some manufacturers avoid government business, difficulties encountered by government agencies in dealing with bidders, are a few of the topics covered in new 16-page bulletin, "United States Government Procurement". The bulletin also outlines the company's daily bid-reporting bulletin and associated services.

▼ BREEZE—Identify by IEN-10038 if you write the maker ▼

**STEELS . . Technical data on Type 3100 nickel chromium steels**

International Nickel Co.
67 Wall St., Room 1[illegible], New York 5, N. Y.

**Compositions** and heat-treating information are presented in tables in new 12-page Technical Bulletin S8-2. Charts and curves show isothermal transformation, tensile and impact properties, hardness properties. At the rear is a 4-page list of warehouse sources for Type 3100 nickel-chromium steels.

▼ BREEZE—Identify by IEN-10039 if you write the maker ▼

**TUBES . . Fabricating instructions for seamless tube and pipe in pocket handbook**

Robertson & S. Wright Tube Co.
[illegible] 4th Ave., Beaver Falls, Pa.

**Technical Bulletin 9-B** gives new edition of the company's handbook on methods of working seamless tube and pipe of the company's Croloy ferritic air-hardening alloy steels. The handbook, copyright 1949, has 40 pages. It describes characteristics of the steels, annealing practice, methods of working and heating, welding properties and procedures.

▼ BREEZE—Identify by IEN-10040 if you write the maker ▼

**VENTILATING . . Operating principle described in data folder on air diffuser unit**

Rockwell Corp.
[illegible] Sts., [illegible] Pa.

**Air distribution pattern** of operation and operating description of the company's air diffuser is new 8-page folder. Stress is laid on the unit's aspiration action. Formulas are included.

▼ BREEZE—Identify by IEN-10041 if you write the maker ▼

**WELDING . . Information booklet on electrodes for welding high tensile steels**

Arcos Corp.
[illegible] Philadelphia 44, Pa.

**Question and answer** method is employed in new 12-page booklet to present information on low alloy low-hydrogen electrodes for arc welding high tensile-strength steels. Title is "ABC's of Welding High Tensile Steels." Questions cover electrodes for use, coating types, applications, preheat, stress relief.

*All Makes of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZE—Identify by IEN-10042 if you write the maker ▼

Just a flick of switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, usually is accomplished in *less than a minute*.

Available in a variety of models suitable for extremely accurate work with a wide range of materials, both Newtonian and non-Newtonian, the Brookfield Viscometer is portable and plugs in any A.C. outlet — *can be used in lab, plant, or both.*

Write today for fully illustrated 8-page catalog.

***NEW!*** Two motors and exclusive counter-rotating action make new Brookfield Laboratory Mixer quickest, most effective on market. Creates annular flow, provides scissor-like shearing, and stops messy slop-overs. Write for descriptive brochure "M".

Brookfield ENGINEERING LABORATORIES, INC.
235 PORTER STREET, STOUGHTON, MASS.

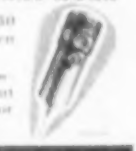

▼ BREEZE—Identify by IEN-10043 if you write the maker ▼


**You can't afford INEFFICIENCY even if it's FREE!**

**LET'S LOOK AT YOUR SMALL DRILL WORK**

If you're drilling manually with No. 80 to ⅛" drills, you're losing money even if you've written off the presses.

Dumore Automatic Drill Heads use low-scale workers, give more production, cut drill breakage, cut scrap loss. Write for free 16-page illustrated bulletin today!



**The DUMORE Company**
1209 17th St., RACINE, WISCONSIN
Export address: 13 E. 40th St., New York, N.Y., U.S.A.


▼ BREEZE—Identify by IEN-10044 if you write the maker ▼


*Improved Method Centrifugal* SPRAY DRYER *and* CONCENTRATOR*

*Complete information on improved centrifugal Spray Dryer, illustrated with photographs and engineering design drawings.*

THE DRYING AND CONCENTRATING COMPANY DRYER

*Improved method for* **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture content.

*CONCENTRATOR AVAILABLE SEPARATELY

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining natural flavors and vitamins.

**DRYING and CONCENTRATING CO.**
[illegible] SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS


▼ BREEZE—Identify by IEN-10045 if you write the maker ▼


**THREE'S A CROWD!**

**3 Fittings give you 14 Arrangements for a wide range of aluminum pipe structures!**

CROSS

CORNER

SWIVEL

With high speed, at low cost, you can now construct almost every conceivable type of pipe rail structure—hand rails, guards, car walks, hand trucks, benches. The combination of No-Rail fittings—with patented slip-on feature—and Reynolds Aluminum pipe eliminates threading, welding. No painting for either appearance or protection. Forever rustproof, impervious to attack by industrial fumes. No-Rail aluminum assemblies mean more maintenance time and costs. Besides the three basic fittings, modified cross, end plug, floor and wall flanges are also available.

**PACKAGED ASSEMBLY KITS**

Manufacturers may use No-Rail fittings and aluminum pipe for knock-down kits for home workshop assembly. Makes up into picnic benches, tables, play-yards, bazaar booths, storage racks, even car ports.

Get your copy of the illustrated folder "No-Rail slip-on fittings with Reynolds *Lifetime* Aluminum pipe"—at Reynolds distributors* (listed under "Aluminum" in your phone book) or write Reynolds Metals Company, 2558 South Third Street, Louisville 1, Kentucky.

Reynolds *Lifetime* Aluminum

▼ BREVITY—Identify by IEN-10046 if you write the maker ▼

WRITE TO

**SYNTRON CO.**
410 Lexington Ave. Homer City, Pa.

▼ BREVITY—Identify by IEN-10047 if you write the maker ▼

**NEW TAPE GETS GREATER STRENGTH, FLEXIBILITY FROM GLASS...**

**SEND FOR FREE BOOKLET!** SHOWS HOW TAPE CAN HELP IN YOUR BUSINESS Whatever your business, chances are you'll find the facts, figures and pictures in this 32-page booklet will help you cut costs!

Just fill out the coupon—and mail it today—to the address below for your copy.

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NAME (PLEASE PRINT)

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COMPANY

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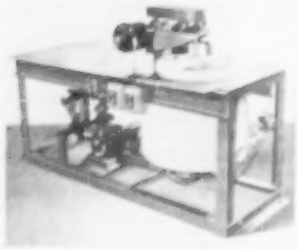
CITY

**Permacel**
INDUSTRIAL TAPES
INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

▼ BREVITY—Identify by IEN-10049 if you write the maker ▼

**PROCESSING . . Pilot run kettle to test results on sample batches**

Source: CHAFFEE DESIGN & MFG. CO.
664-68 Main St., East Aurora, N. Y.



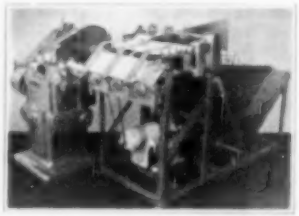
New kettle, self-contained on a steel table frame is insulated and equipped with a variable-speed scraper-agitator drive. Thermostat-controlled gas-fired heating equipment for temperatures to 300 deg. F. and a motor-driven pump to remove the finished batch for pasteurizing, go to the kettle top, to open, pass for cooling through a strainer for cleaning or grease working through a relief valve or to other equipment such as a mixer. The test run is designed to provide data that will measure difficulty later on in a full operation.

**The kettle** and drive are self-contained and can be supplied without the steel table frame. Overall dimensions are 28 to 32 by 42 inches. The complete contained assembly measures 96 by 84 by 54 inches. Weight is 2000 pounds. The kettle holds a maximum of 18 gal. of liquid.

▼ BREVITY—Identify by IEN-10050 if you write the maker ▼

**WOOD WORKING . . Turning machine for rods, dowels to 2 in., to 200 fpm.**

Source: HAWKER MFG. CO.
1423-27 Keowee St., Dayton 4, Ohio



**Hopper feed** has been added to the B90 rod and dowel machine, previously described IEN-1314. Its speed can be maintained at 200 feet fpm through the machine on work to 2 in. in diameter. Work squares are loaded into the adjustable-length hopper from where they are picked up by a conveyor and delivered to a magazine in rule one after the other on grooved wheels into the feed wheels on the machine. Variable speed drive on the conveyor provides adjustment to meet given conditions.

▼ BREVITY—Identify by IEN-10051 if you write the maker ▼

**TRUCKS . . Sound motion picture on how to handle large rolls with lift truck**

Clark Equipment Co.
Battle Creek 47, Mich.

**Roll lift attachment** for the—mounted a power lift truck is described in new 16-mm. film available on loan. Title is "Handling Rolls with the Barter Dexine". Applications are shown in handling large rolls such as newsprint paper. Running time is 12 minutes.

*All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10052 if you write the maker ▼

**PUT ON IN NO TIME . . . STAY ON FOR ALL TIME — Electroline WIRE ROPE FITTINGS**

These are outstanding advantages of Electroline fittings: Shorter installation time—no heat, acids or dangerous molten metal is required—unskilled labor, using ordinary mechanic's tools, make connections in a matter of minutes. And these permanent wire-rope fittings prolong the life of rope by damping vibration and overcoming rope-fatigue at entrance to fittings—can be reclaimed and used over and over again.

Illustrated, pocket-size Catalog fully describes all advantages of Electroline wire rope fittings . . . send for your copy, today.

**Electroline Company**
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS

▼ BREVITY—Identify by IEN-10053 if you write the maker ▼

*easier, faster, accurately . . .*

Even your most complicated perspectives—including border—convert exploded views—are accurately sketched with a Bruning Perspect-O-Metric.

The Perspect-O-Metric attaches to any standard drafting machine. Wherever it is placed on the drawing board, the floating scale arms instantly automatically align with pre-recorded vanishing points.

A convenient thumb brake locks the arms in exact position for accurate drawing. Perspective measurements can be made directly from the precision scales.

SEND TODAY for illustrated Bulletin A-1034. Address Department H-10C, Charles Bruning Company, Inc., 100 Reade Street, New York 13, New York.

**BRUNING Perspect-O-Metric**

▼ BREVITY—Identify by IEN-10054 if you write the maker ▼

**Puts new light on "visibility"**

FOR THE MAN WHO TAKES PRIDE IN HIS WORK
**Triplett**

TRIPLETT ELECTRICAL INSTRUMENT CO., BLUFFTON, OHIO, U.S.A.

▼ BREVITY—Identify by IEN-10055 if you write the maker ▼

▼ BREEZE—Identify by IEN-10056 if you write the maker ▼

# Peerless-Electric

## TYPE PVS EXHAUST FANS

These fans are "all Peerless"—completely designed and manufactured by The Peerless Electric Company, manufacturers of fans and motors since 1893. Both motor and fan are designed to work together as a unit. **PERMANENT SPLIT CAPACITOR MOTOR**—No internal switches or mechanical parts to fail and cause breakdowns. Totally enclosed to exclude dirt and moisture. **QUIET OPERATION**—Wide heavy gauge steel blades rotating at slow speed to assure rated capacity at low noise level. **FOUR SIZES**—Fans 16", 18", 24", 30" dia.; motor H.P. ⅙, ⅓, ½, ¾; CFM: 2150, 3900, 4950, 7375; frame sizes: 24", 26", 34", 40" square. **HORIZONTAL OR VERTICAL MOUNTING**—Ball bearing motor good to take end thrust in all positions. **FURNISHED COMPLETE**—Controller for single speed, 2 speed, or 3 speed, furnished as ordered. **EASY TO INSTALL**—Requires only 4 or 6 lag screws or bolts to mount. **FINISH**—Gray Hammertone baked enamel. **RATINGS**—According to National Association of Fan Manufacturers and American Society of Heating & Ventilating Engineers. **GUARANTEED** against defective workmanship or material for a period of one year from date of shipment from factory. Registered serial number identifies immediately for spare parts or duplicates. Write for complete specification sheet.

**THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO**
Established 1893

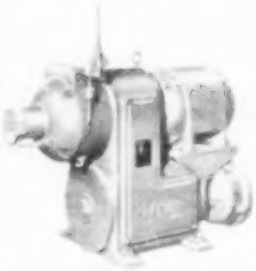
**Peerless-Electric MOTORS-FANS-BLOWERS**

▼ BREEZE—Identify by IEN-10057 if you write the maker ▼

# 4,172,500 operating cycles with no sign of failure

## ...in Reeves Motodrive Test of NORGREN Assemblies!

Like new condition after 7,727 hours continuous operation—equivalent of 8 years average service—this is the record of Norgren Hose Assemblies in a test made by Reeves Pulley Co., Columbus, Ind.



Dependable hose performance is a result of Reeves Vari-Speed Motodrives—for use by dealer or proprietary automatic control of speed, torque, pressure or temperature.

**SPECIFY NORGREN HOSE ASSEMBLIES**

and get the same quality for YOUR equipment. Reusable or permanent couplings, wide range of sizes & many pressures.

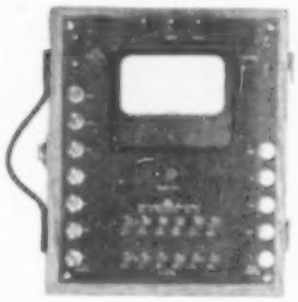
For Application Data Sheet No. 102 write C. A. Norgren Co., 123 Iowa St. Denver, Colorado.

**Norgren**
LUBRICATORS, REGULATORS, VALVES, FILTERS, HOSE ASSEMBLIES

▼ BREEZE—Identify by IEN-10059 if you write the maker ▼

## TESTING . . Electric meter reads current, resistance, voltage

Source: INSTRUMENT LABORATORIES
317 W. Walton Place, Chicago 10, Ill.



**Analyzer**—Model 666, is a new electric meter to test signal and alarm circuits, relay coils, to check rectifiers, measure insulation resistance, test motors and power coils. It has voltage measurement and overlapping ranges to meet the desired use of its multi-purpose meter, and the type and range of the desired reading. Operation is on self contained dry battery power. Dimensions are 11 in. by 9 in. by 4 inches. Weight is about 10 pounds. Accuracy is 2 per cent on dc and 3 per cent on ac at 60 cycles.

**Readings** are in several ranges from 50 microvolts to 500 volts dc, 5 to 500 volts ac, 1 ma. to 20 amp. dc, 200 ma. to 20 amp. ac. High and low ranges for resistance readings are 1,000 ohms to 1 megohm and 0 to 1,000 ohms.

▼ BREEZE—Identify by IEN-10060 if you write the maker ▼

## CLEANING . . Granular material makes solution for steam jet equipment

Source: DUBOIS CO.
1118-22 W. Front St., Cincinnati 3, Ohio

**Cuts heavy and encrusted soils**

**Blast** trade names new granular cleaning compound that is shipped in 500-lb. drums for use in steam jet cleaning equipment on ferrous surfaces. It combines detergent action with scouring of the water suspended in the solution. It is non-toxic, odorless. It should not be used on aluminum or paint.

▼ BREEZE—Identify by IEN-10061 if you write the maker ▼

## GRINDING . . Bench type machine, 1/3 hp. motor drives two 6 in. wheels

Source: DELTA POWER TOOL DIVISION
614 E. Vienna Ave., Milwaukee 1, Wis.

**Enclosed motor** with factory lubricated sealed ball bearings is pedestal mounted and fitted with housing ends that extend out to the inner washers for grinding wheels on both sides of this new machine. It is intended for utility application in a shop. The assembly includes steel spark guards, tool rests, shatterproof glass safety shields. Dimensions are 29 by 8 by 9 inches.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ BREEZE—Identify by IEN-10062 if you write the maker ▼

# O-RINGS by INJECTION MOLDING

## Dependable Hydraulic Seals

Minnesota O-Rings function in air or gas systems as well as in hydraulic systems. Air cylinders . . . hydraulic valves . . . loading mechanisms . . . water pumps . . . bottling machines . . . refrigerators . . . motors . . . lubricators . . . are a few of their uses. Minnesota exclusive injection process makes possible very close dimensions, uniformity in mass production and downright economy. We use special compounds of synthetic rubber to meet your exact requirements. Let us quote on your next hydraulic packing installation.

*Manufacturers of all types of small rubber parts*

Write for O-Ring Catalog

**MINNESOTA RUBBER & GASKET CO.**
2640 WOODDALE AVE., MINNEAPOLIS 16, MINN.

▼ BREEZE—Identify by IEN-10063 if you write the maker ▼

# ONLY 3 PARTS TO HANDLE

That's right—only 3 parts to handle when you install a Compact Electric Time Delay Relay. And, more importantly, only 3 parts for a customer to stock! Simply remove one screw, install relay, and replace unit—and replace cover—that's all there is to it!

The link to this revolutionary Electric Time Delay Relay gives quick, accurate protection against harmful overloads. Sealed Contacts operation, even in most corrosive vapors. Shows "Normal" and "Tripped" positions. Shows "Inches Time" remaining and normal timing control.

General Electric time delay relays are available in both hermetic and sealed Glass types. Provide time ratings from 0.06 seconds to 60 minutes. Trade Slide from 30 milliamperes—Self for 100 amperes or 600 volts current. Choice of supply from 6 volts electrical supply Series. Vacuum and Open based to fault. Or write Section DD-1042, Construction Materials Department, General Electric Company, Bridgeport 4, Connecticut, for further information.

**GENERAL ELECTRIC**

▼ BREEZE—Identify by IEN-10064 if you write the maker ▼

# PIVOTED-BLADE SHEAR

## A Revolutionary Design!

UPPER KNIFE TRAVELS IN CIRCULAR PATH

Basically different from all other metal cutting shears. Overcomes limitations of ordinary guillotine-type shears. No slides or guides to wear. Many other important features. All sizes for metal to 1 1/4" thick or 10'-0" long.



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THE CLEVELAND CRANE & ENGINEERING CO.
4226 East 78th St., Wickliffe, O.

**STEELWELD SHEARS**

▼ BREEZE—Identify by IEN-10065 if you write the maker ▼

# TEMPILSTIKS®

*The amazing Crayons that tell temperatures*

in
WELDING
FLAME CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

**$2** EACH

★ Select the Tempilstik for your working temperature.
★ Mark your workpiece with it.
★ The Tempilstik will leave a liquid mark on your workpiece at the selected temperature (melted).

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|---|---|---|---|---|---|---|
| 113 | 213 | 313 | 450 | 800 | 1250 | 1400 |
| 125 | 225 | 325 | 500 | 850 | 1300 | 1500 |
| 138 | 238 | 338 | 550 | 900 | 1350 | 1750 |
| 150 | 250 | 350 | 600 | 1000 | 1400 | 2000 |
| 163 | 263 | 363 | 650* | 1050 | 1450 | 2250 |
| 175 | 275 | 375 | 700 | 1100 | 1500 | 2500 |
| 188 | 288 | 388 | 750 | 1150 | 1550 | 2750 |
| 200 | 300 | 400 | 800 | 1200 | 1600 | 3000 |

Also available in paste and liquid form.

Sizes up to 2000 readings

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132 W. 22nd St., New York 11, N. Y.

**FREE**—Tempil "Basic Guide to Ferrous Metallurgy" —8½" by 11" plastic laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

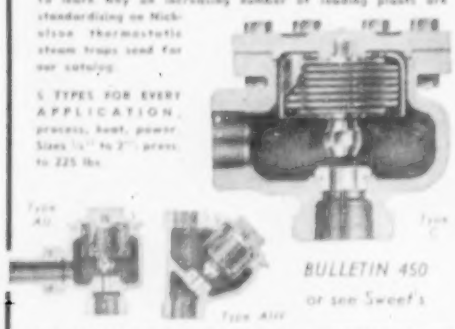
NAME _____
COMPANY _____
ADDRESS _____

▼ BREEFITT—Identify by IEN-10066 if you write the maker ▼

# 15 of 20 Engineers Prefer Nicholson Traps

To determine the best steam trap on which to standardize, a large processing firm recently asked their plant engineers for their preference. In 15 out of 20 plants the choice was Nicholson. The repeated adoption of Nicholson steam traps by plants currently in big "cost-reduction-through-modernization" programs is another indication of their advanced features. To learn why an increasing number of leading plants are standardizing on Nicholson thermostatic steam traps send for our catalog.

5 TYPES FOR EVERY APPLICATION, process, heat, power. Sizes ½" to 2", press. to 225 lbs.




BULLETIN 450 or see Sweet's

**W. H. NICHOLSON & CO.** 159 OREGON STREET WILKES-BARRE, PA.

Sales and Engineering Offices in 32 Principal Cities

▼ BREEFITT—Identify by IEN-10067 if you write the maker ▼

# Investigate... GPX

**GPX** . . . Georgia-Pacific's plastic-faced plywood, is working production miracles in plants, in products and in construction. Its unique properties include: a satin-smooth, armor-hard surface, extra strength and long life under adverse conditions.

*A Few of the Many Uses for GPX:*

**Use it in INDUSTRY:**
- creamery
- impression tables
- chutes
- shelves and bins
- lockers
- freight car controls
- work benches

**Use it for CONSTRUCTION:**
- concrete forms
- interior walls
- exterior walls

**Use it for FURNITURE:**
- game room tables
- laundry hampers
- occasional tables
- bookshelves
- display booths
- advertising signs
- interior decorations

**Use it in the HOME:**
- outdoor furniture
- kitchen cabinets and counters
- window boxes
- cellar and sliding doors

GPX is Weatherproof
GPX is Water Resistant
GPX is Abrasion Resistant
GPX is Stain Resistant
GPX is Vermin Resistant
GPX is Smooth
GPX is Extra Strong
GPX is Workable
GPX is Durable
GPX is Attractive

GP GEORGIA—PACIFIC PLYWOOD & LUMBER CO.

Wholesale Distribution Yards in BOSTON · NEWARK · PHILADELPHIA · CHICAGO

For complete data, fill in and mail this coupon today

Georgia-Pacific Plywood & Lumber Co.
1256 Southern Finance Building
Augusta, Georgia

Please send me GPX Use Folder

NAME

FIRM NAME

FIRM ADDRESS

POSITION

▼ BREEFITT—Identify by IEN-10069 if you write the maker ▼

## BRAZING . . Motor driven torch feeds wire and gases for brazing flame

Source: METALLIZING CO. OF AMERICA
3518-22 W. Carroll Ave., Chicago 24, Ill.

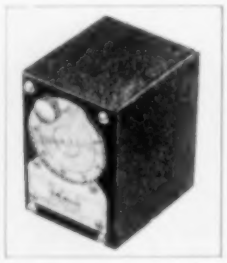
**New torch** for semi brazing or soldering has been developed to apply on work that can be fed at a steady rate under the torch flame. The new unit employs a constant-speed induction motor to feed the brazing or soldering wire. It has connections for fuel gas, oxygen and a fluxing gas. Phos-copper wire is employed for brazing, any of the lead-base solders in wire form for soldering.

**The brazing wire** is fed into the flame at a speed to melt it into small drops that fall to the work seam without leaving from the flame. The work is fed forward at sufficient speed to complete the operation satisfactorily. Soldering is essentially the same in set-up as for brazing except that the flame is positioned so it does not strike directly on the work surface and other burners are employed to heat the work prior to solder application.

▼ BREEFITT—Identify by IEN-10070 if you write the maker ▼

## TIMING . . Adjustable delay relay, single or multiple ac. or dc. circuits

Source: A. W. HAYDON CO.
109-13 W. Main St., Waterbury 32, Conn.



**Series 6100** dc. and **Series 11400** ac. assemblies in the company's line of relay-controlled timing equipment are now available with a face mounted dial by which operation of the actuating switch can be set for delaying action following initiation of a cycle. Delay interval is adjustable between maximums of 4 and 22½ minutes as specified.

**Contacts** are opened or closed to actuate a single microswitch in a control circuit or to operate a motor driving cams at one or more microswitches of specified current rating. Assemblies are available for flush or surface mounting. The single-switch surface assembly shown in the illustration measures about 2¼ by 3 by 3¼ inches. The new adjustment is released for turning and locked at a desired setting by turning a thumb nut.

▼ BREEFITT—Identify by IEN-10071 if you write the maker ▼

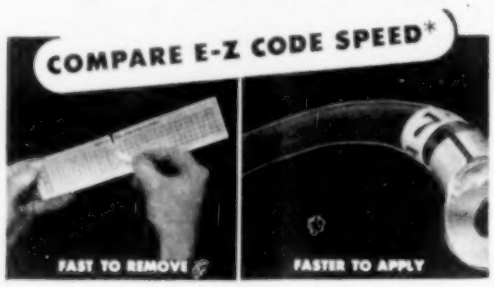
## TRUCKS . . New safety code on design, operation of industrial power trucks

American Standards Association
70 E. 45th St., Room 2845, New York 17, N. Y.

**Standard B56.1-1950** is a 32 page booklet, list price 50 cents, sponsored by the American Society of Mechanical Engineers. It describes safe practice in design of industrial power trucks, general safety regulations on operation and maintenance, specific safety rules for operators.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEFITT—Identify by IEN-10072 if you write the maker ▼




*with any other wire marker or method*

Just select the marker you want, pull the unique discout Speed Tab and the fabric marker is off! Remaining strips are still protected.

E-Z Code Markers are instantly applied without moistening. Stick permanently, even when pulled through conduit. Waterproof, weatherproof. Positive identification for wire, pipe, cable, conduit, terminals, parts, etc. Preprinted in 550 standard codes (including ASA and NEMA) or to your specifications.

*or ECONOMY or VISIBILITY or SIMPLICITY

Make an on-the-job E-Z Code test

WESTERN LITHOGRAPH CO. Dept. IEN-10
1 SECOND ST., LOS ANGELES 54, CALIF.

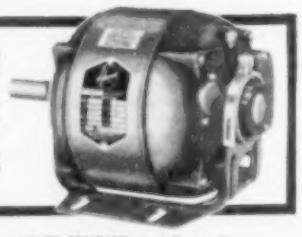
▼ BREEFITT—Identify by IEN-10073 if you write the maker ▼

When your reputation depends on HOT AIR

# HOOVER ELECTRIC MOTORS

When winter comes and cold houses call for ready warmth, a furnace's good name depends not just on heat generated but on heat *delivered where it's needed*. That's why so many forced warm-air systems rely on blowers powered by Hoover Motors specially built for long, quiet, dependable furnace blower service. There are other Hoover Motors for other needs. Write today for details.

Hoover Furnace Blower Motors from ¼ thru ½ H.P. split-phase, ½ thru ¾ H.P. capacitor-start. 1725 R.P.M. NEMA mounting. U.L. approved. Drippproof, automatic thermal protection, designed for 40° C. rise. Oil wiliers. Resilient base.



THE HOOVER COMPANY, North Canton, Ohio
Kingston-Conley Division
78 Brook Avenue, North Plainfield, New Jersey

▼ BREEFITT—Identify by IEN-10074 if you write the maker ▼

GARDWELL Products

## SAFETY HATS SAVE HEADS

There is no reason for being unprotected against head hazards. The two safety hats illustrated here are designed to offer excellent protection with maximum wearing comfort.

**GARDWELL TYPE "T" ALUMINUM HAT**

Stamped from tough aluminum alloy with ribs for added strength. Light weight — Fully adjustable for all head sizes — men or women — Fully suspended head band affords maximum shock absorption.

**GARDWELL TYPE "P" HAT**

Made of tough, laminated bakelite this hat is light in weight, cool, comfortable to wear and exceptionally strong and sturdy. Same type of construction as Type "T" hat offers maximum shock absorption.

Write for complete information about safety hats and complete line of Safety Clothing & Equipment.

Safety CLOTHING AND EQUIPMENT Co.
7016 EUCLID AVENUE · CLEVELAND 3, OHIO
PHONE ENdicott 1-1722

▼ BREEFITT—Identify by IEN-10075 if you write the maker ▼

## FOR HIGH SPEED PRECISION WELDING

*of light gauge metals, wire and small parts*

RAYTHEON *Announces* MODEL B *New* WELDPOWER HEAD

A completely new welding head of patented design with precision operating features to match the improved precision control of new Raytheon Weldpower units.

**CONSISTENT PRESSURE**, predetermined and uniformly applied regardless of operator skill or other variables.

**ACCURATE SETTING** with continuous visual indication by air gauge. Settings can be recorded and readily duplicated at any time. Pressure range: 0.5 to 16 lbs.

**INSTANT FOLLOW-UP** with inertia virtually eliminated by a light, fast-acting air piston coupled to the lower electrode. Follow-up travel limited by micrometer adjustment.

**ADAPTABLE** for *series welding* by the addition of a second upper electrode or for *percussive welding* by simple accessories.

**MORE COMPACT.** Designed for minimum bench space plus maximum ease of work handling.

*Write for complete information*

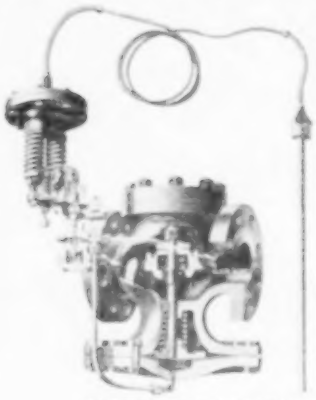
RAYTHEON
*Excellence in Electronics*

RAYTHEON MANUFACTURING COMPANY
WALTHAM 54, MASSACHUSETTS

▼ BREEZY—Identify by IEN-10076 if you write the maker ▼

**LOW COST**

## Temperature Control



Tops in performance for both storage and instantaneous heaters, this pilot-operated Spence regulator offers these important advantages.

EECO Model [illegible] [illegible] for 30 years [illegible] has failed to give [illegible] in a single case where EECO Model has been [illegible] by [illegible]

Positive Controlling — [illegible] Stops [illegible] [illegible] maintenance.

Large Metal Diaphragm — [illegible] [illegible] [illegible] [illegible]

E7150 Temperature Regulator

New bulletin gives complete data on the entire line of Spence regulators. They are made in sizes from $\frac{1}{4}$" to 12" for service with air, steam, water, oil or gas. Write for your free copy of Bulletin 500 today.

**Spence**

**SPENCE ENGINEERING COMPANY, INC.**
**WALDEN, NEW YORK**

▼ BREEZY—Identify by IEN-10077 if you write the maker ▼

*Now*- fit the protection to the job!

# M·S·A *Faceshields*

with

## 2 Visor Types

**CHIPRUF**

FOR specific protection against impact — in molding, grinding, woodworking, metal pouring, etc., wherever light flying particles are a hazard!

*or*

**CHEMPRUF**

FOR specific protection against liquid splashes — in chemical handling, and fine repairing, refining, degreasing, etc., wherever acids, alkalies may burn!

ECONOMY through longer life—through specific job application! That's the big value fact of these two visor types. Each type gives *best* protection against its designated class of hazards, with greater durability as a natural result. Order CHIPRUF if flying particles prevail—specify CHEMPRUF if liquid splashes are your problem. *You'll profit!*

**MINE SAFETY APPLIANCES COMPANY**
**BRADDOCK, THOMAS and MEADE STREETS · PITTSBURGH 8, PA.**
*At Your Service:* 54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

▼ BREEZY—Identify by IEN-10079 if you write the maker ▼

## BRAZING . . Non-ferrous metal strip is clad with silver brazing alloy

Source: AMERICAN SILVER CO.
36-09 Prince St., Flushing, N. Y.

**Width to 5 in.** and required thickness minimum at 004 in. can be supplied in non-ferrous metal strip in which silver brazing alloy is clad to one or both sides. The base metal can be brass, bronze, copper, Monel, nickel. Bryne Clad is the trade name of the new material.

**The strip** can be blanked, drawn at normal press operations and with standard tools. The formed parts can then be assembled by furnace or induction brazing without need for rings, washers or other forms of separate brazing material.

▼ BREEZY—Identify by IEN-10080 if you write the maker ▼

## CLEANING . . Foam rubber pad coated with aluminum oxide abrasive

Source: RUBBER SCRUBBER CORP.
140-44 Main Ave., Watertown, N. Y.

**Soft and easy on a worker's hands**

**List price** is $5.40 per box of 30 abrasive pads in a new assortment of 5 by 5 to $\frac{5}{8}$ in. foam rubber and aluminum oxide facing. The pad will fit around and into contours and depressions for finishing, surfacing, polishing wood or metal. It can be employed in foundries to eliminate parting marks on cores. Application is wet or dry. A loaded pad can be cleaned by washing. Good for repeated use.

▼ BREEZY—Identify by IEN-10081 if you write the maker ▼

## SIGNALING . . Visual annunciator assembles 1 by 3 in. plastic cells

Source: KING PRODUCTS CO.
1108-12 Euclid Ave., Cleveland 15, Ohio

**Bakelite** cells or compartments, in a basic 1 by 3 in. size, are assembled in an aluminum frame and are equipped with Lamtroid plastic windows and interior lights in this new equipment. The aluminum is satin finished. The windows are engraved to carry specified characters or wording as required for a given installation. Each cell can be divided into equal cells measuring 1 by 1½ in. for a maximum number of indications on one assembly. Mounting is flush or surface on a wall or in single or back-to-back suspension from a ceiling.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZY—Identify by IEN-10082 if you write the maker ▼

## BETTER POWER TRANSMISSION write for bulletins

**BULLETIN GMA**
Foote Bros. Louis Allis Gearmotors are available in single, double, and triple reductions in a wide range of sizes and ratios. Dull-Rated Gears assure long wear life.

**BULLETIN LPA**
Foote Bros. Line-O-Power Drives are compact, sturdy units available in double and triple reductions. Have long wearing Dull-Rated Gears.

**BULLETIN HGA**
Foote Bros. Hygrade Drives offer rugged dependability and trouble-free operation. Horizontal and vertical types available in a wide range of sizes and ratios.

**BULLETIN HPA**
Foote Bros. Hypower Drives. Increased mechanical capacity is made possible by refined techniques in generating gears, and by increased thermal capacity. Horizontal and vertical types in a wide range of sizes.

**BULLETIN MPA**
Foote Bros. Maxi-Power Drives provide more power in less space. Available in single, double, and triple reductions in a wide range of sizes and ratios.

FOOTE BROS.
GEAR AND MACHINE CORPORATION
Dept. IEN, 4541 South Western Blvd.
Chicago 9, Illinois

FOOTE BROS.

▼ BREEZY—Identify by IEN-10083 if you write the maker ▼

**YOU CAN BE SURE.. IF IT'S Westinghouse**

## See why 1,000,000 Operations Fail to Phase MOTOR WATCHMAN

The new Motor Watchman has just won a mechanical life test conducted by a large machine company. After 1 million operations they gave up trying to break the starter down. It stood up where others failed.

**GET THE FACTS FREE**

Get the complete story. See the initiating overload relay. Learn about "De-ion®" arc quenchers. Read about Bonderized enclosures. Send for your free copy of Motor Watchman, B-9715. Or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

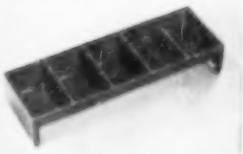
**Westinghouse**
**"DE-ION" MOTOR WATCHMAN**

▼ BREEZY—Identify by IEN-10084 if you write the maker ▼

**Cutter wheels.** Strong, durable, chemical resistant, for Meeting Washing Machines. They are molded of BAKELITE Phenolic Plastic by Bucher Plastics Corp., Maryland 10, and supplied by The Nagel Chain Mfg. Co., 2811 So. Archland Ave., Chicago 14, Ill.

**Cooking utensil handles.** Handsome, heat-resistant, cool to the touch BAKELITE Phenolic Plastic forms the handles for nationally known "Farberware" utensils. Molded by Harry Davies Molding Co., 1428 North Wells St., Chicago 10, Ill.

**Candy molds.** They are low in cost, long lasting, easily made, easy to use, because they're molded from BAKELITE Phenolic Plastic by Abet Plastics Co., 6940 Potomac Way, Pittsburgh 8, Pa.



**Coin tills.** Light, smooth, wear resistant. They're for Illinois cash register drawers. Molded of BAKELITE Phenolic Plastic by Illinois Corp., subsidiary of Rockwell Mfg. Co., by John Mack & Son Molded Products, 6227 No. Broadway, Chicago 40, Ill.

# Four "C's" that Hit "High C" *IN QUALITY!*

Four jobs that no other material could perform so satisfactorily at such low cost!

That's the story of these four products—whose manufacturers chose BAKELITE Phenolic Plastics to assure strength, utility, ease of production, fine appearance, and economy.

Add to these features smooth lustrous finish, light weight, resistance to chemicals and moisture, ease of molding, together with excellent electrical properties. No wonder BAKELITE Phenolic Plastics are first choice of so many companies for solving problems, simplifying production, and selling products!

If you can use these qualities . . . and more . . . in your products, large or small, why not draw upon the forty years of experience of Bakelite engineers. They will see to it that you get the right BAKELITE Phenolic Plastic for your requirements. Write Dept. BR-14 today!

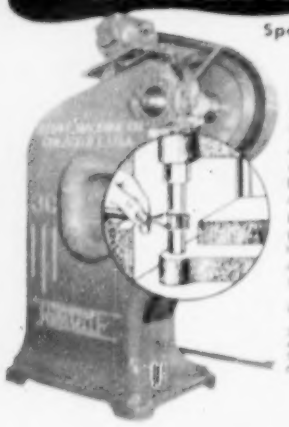
**Bakelite** TRADE MARK *Phenolic* PLASTICS

BAKELITE DIVISION

BAKELITE DIVISION
*Union Carbide and Carbon Corporation*
30 East 42nd Street, New York 17, N. Y.

▼ BREVITY—Identify by IEN - 10086 if you write the maker ▼

**Insist on COMPLETE PROTECTION for Pins and Bushings!**



Specify **CMD** *Anti-Scoring* **LUBRICANTS**

These Concentrated lubricants have an equal for use on guide posts and bushings of die sets because they give Complete protection for a long period of time. Check their many outstanding advantages.

1. They outlast ordinary lubricants three to five
2. They prevent wire metal to metal contact
3. They increase die life
4. No scoring or seizure
5. Will not drip off
6. Will not corrode

Write for FREE sample kit of one tube each of CMD Center Point Lube and CMD Center Point Oil. Address Department 10-IEN

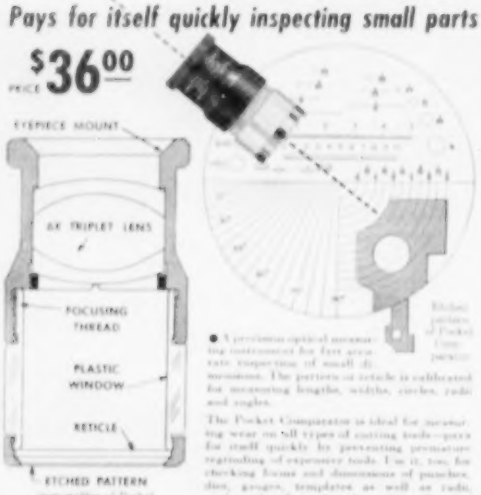
**Chicago Manufacturing & Distributing Co.**
1938 West 46th Street Chicago 9, Illinois

▼ BREVITY—Identify by IEN - 10087 if you write the maker ▼

**New POCKET COMPARATOR**

*Pays for itself quickly inspecting small parts*

PRICE **$36.00**




● A precision optical measuring instrument for fast accurate inspection of small dimensions. The pattern on reticle is calibrated for measuring lengths, widths, circles, radii and angles.

The Pocket Comparator is ideal for measuring wear on all types of cutting tools—pays for itself quickly by preventing premature regrinding of expensive tools. Use it, too, for checking forms and dimensions of punches, dies, gauges, templates as well as radii, angles, chamfers, threads and small holes on production parts. Order today.

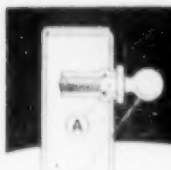
*a product of* BELL & HOWELL CO. *distributed by*

Write for FREE Descriptive Folder

See Your National Tool Co. Representative or Local Jobber

**NATIONAL TOOL CO.**
11220 Madison Avenue Cleveland 2, Ohio

▼ BREVITY—Identify by IEN - 10088 if you write the maker ▼




**3 tough fastening problems solved... by one RIVNUT!**

Designers needed a rivet that 1) could be installed from one side only, 2) would serve as a outplate for a knob attachment and 3) could be installed after enameling. A Rivnut proved the perfect answer.

Flat-head Rivnut ① was inserted in the enameled sheet metal (a kitchen cabinet door) and upset with an easy-to-use heading tool. The knob of the catch ② was then threaded into the clean, still-intact threads of the Rivnut.

This simple solution saved many man-hours on this job. If you have a fastening problem, why not put it up to B. F. Goodrich Rivnut engineers?

SEND NOW FOR FREE RIVNUT DEMONSTRATOR

Shows with motion how Rivnuts work. Explains construction, gives proved applications. For your free demonstrator, write to

**B.F.Goodrich** DEPT. IE-100 AKRON, OHIO

▼ BREVITY—Identify by IEN - 10089 if you write the maker ▼

**FASTENING . . Plastic coated metal in form of screws, studs, special parts**

Source: FORMAN INSULATING SCREW CORP.
401 Broadway, Room 810, New York 13, N. Y.

**Production** has been started and the company is prepared to supply certain styles of its new Insulating Screws in sizes from No. 8 to ½ inch. The new design starts with a metal core in serrated design to anchor inside an extruded thermoplastic coating. The coating is threaded following the extruding operation.

**The metal** is slotted for driving and provides the strength. The plastic insulates electrically, cushions shock and vibration. The screw is available in specified designs and sizes on quantity order. Special threaded parts can be produced.

▼ BREVITY—Identify by IEN - 10090 if you write the maker ▼

**MOULDING . . Stainless beading snaps in place on sheet and plate edges**

Source: SPOTRIM CORP.
15303 Mack Ave., Detroit 24, Mich.

**New moulding** snaps in place on the edges of sheets, plates, formed parts made of leather, metal, plastics, wood, following application of small feathed clips at intervals along the edges by means of a hand tool supplied for this purpose. The moulding forms a bead ⅛ in. in diameter for edges measuring 0.1 in. in thickness. The material can be formed for any contour including rounded corners. Applications are illustrated.

▼ BREVITY—Identify by IEN - 10091 if you write the maker ▼

**PROCESSING . . Company invites visit and will send you a map to show its location**

Hardinge Co.
240-42 Arch St., York, Pa.

**A map** of the city of York occupies the inside spread of new 16-page folder AH-412. It measures about 20 by 11 in., shows location of the company's plant and office together with a keyed list of 143 other plants in the city and their location. There is an invitation to visit the company, a summary of its products, and a detail map of its York plant location.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . .* *See Page 50*

▼ BREVITY—Identify by IEN - 10092 if you write the maker ▼

**FLO-MASTER FOUNTNBRUSH**

Marks **BOLD** — Writes *fine*

Ink Dries instantly — won't rub off

ON: METAL, CELLOPHANE, GLASS, FABRICS, WOOD, PLASTICS, LEATHER, WAXED PAPER

FOR: PARTS, PIPES, PATTERNS, INSPECTION, ADDRESSING, INVENTORY, STOCK BINS, SHELVES

POCKET SIZE 6¼ in. $3.00*

KING SIZE 8¼ in. $4.00*

Precision-built of aluminum. Inks in all colors. Cap of "King Size" may be screwed to bench to serve as stand.

Ask your supplier or write to Cushman & Denison Mfg. Co., 135 West 23rd Street, New York 11, N. Y.

*Slightly higher in West and Canada

▼ BREVITY—Identify by IEN - 10093 if you write the maker ▼

**Because it's made of *ramie*, nature's long-lasting fiber . . .**

**NEW NAVALON**

*Cuts packing costs to the bone!*

Here's a new Johns-Manville Packing called Navalon that can take punishment and last . . . in reciprocating service against fresh or salt water, brine, cold oil, and other cold liquids.

The high tensile strength and rot-resistance of long-lasting ramie fiber—famous for these qualities for centuries—have been retained in Navalon. A special Johns-Manville process imparts unique lubricating properties which further enhance Navalon's ability to stand up where other packings fail . . . to reduce down time . . . to cut packing costs to the bone.

For further information see your local packing distributor—or send for folder PK-12A. Address Johns-Manville, Box 290, New York 16, N. Y.

**JM Johns-Manville PACKINGS & GASKETS**

▼ BREVITY—Identify by IEN - 10094 if you write the maker ▼

**FABRICATED SCREENS STRAINERS**

TO YOUR SPECIFICATIONS

• PRODUCTION RUNS

• HIGH QUALITY

**NEWARK** offers a "complete package" service in the design and manufacture of fabricated woven wire parts. We design and manufacture screens and strainers for all types of service; for handling oil, water, gasoline, air, corrosive gasses or steam.

We manufacture the wire cloth, thus insuring its accuracy; we also do all the necessary cutting, forming, soldering, stamping, punching, welding and seaming. In other words, it's a NEWARK job from start to finish.

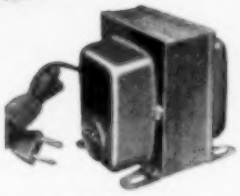
**Newark Wire Cloth COMPANY**

351 Verona Avenue • Newark 4, New Jersey

NEWARK for ACCURACY

▼ BREVITY—Identify by IEN-10096 if you write the maker ▼


Where can you use STEPDOWN TRANSFORMERS?



Whenever you need a 115 volt AC source of supply and have only 230 volt circuits available, install an Acme Electric Stepdown Transformer. A time saver, a money saver. Available in sizes from 75 watts to 2 KVA. Write for Bulletin.

ACME ELECTRIC CORPORATION
2610 WATER STREET CUBA, N. Y.

Acme ACME Electric


▼ BREVITY—Identify by IEN-10097 if you write the maker ▼

▼ BREVITY—Identify by IEN-10098 if you write the maker ▼


COCHRANE STEAM SPECIALTIES

MULTIPORT RELIEF VALVE. Because of its unique design, with a multiplicity of valve discs instead of one single disc, this valve insures safe, continuous operation without sticking, jamming or freezing. Publication 4130.

MULTIPORT DRAINER. For low capacities (up to 17,000 lbs. per hour). Provides tremendous discharge capacity by means of multiple parts in a rotating valve. Instantly responsive, compact, and light weight. Publication 2915.

LINE SEPARATOR. Insures clean, dry steam by unique design of baffles and ribs. Has exceptional port area, is self-cleaning, one piece construction. Most widely used and most successful type of separator. Publication 2923.

C.B. SYSTEM OF HIGH PRESSURE CONDENSATE RETURN. Drains condensate from process equipment at high temperature and high pressure to a closed circuit with no flash loss. Results in faster heat, more uniform heat, increased boiler capacity and extraordinary fuel savings. Publication 2750.

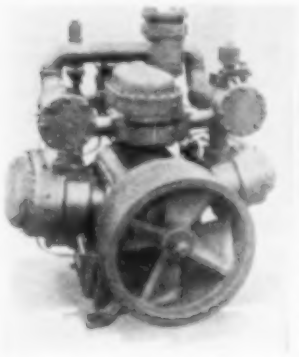
COCHRANE CORPORATION
3152 N. 17th STREET, PHILA. 32, PA.

COCHRANE
SINCE 1863


▼ BREVITY—Identify by IEN-10099 if you write the maker ▼

## REFRIGERATING . . Compressor rates 90 ton in air conditioning use

Source: FRICK CO.
320 Broadway, Waynesboro, Pa.



**New machine** mounts nine cylinders in three banks of three each. It has been added to the company's line of refrigerant compressors, all with cylinders measuring 4⅝ in. in diameter and with 4¼ in. stroke. Operating speed is 725 to 900 rpm. Intended application is with Freon. The cylinder banks are staggered so the connecting rods from three cylinders apply together on each of three crankshaft throws in the compressor.

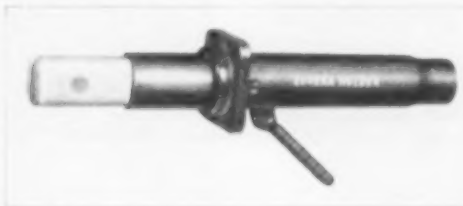
**The crankcase** forms a large oil reservoir below the bottom of the crankshaft. A pressure lubricating pump and the required accessory equipment mount at one end to draw from this reservoir. Oil returning with the suction gas is drained back to the crankcase through a device that equalizes pressure.

**Construction** permits removal of heads and pistons without disturbing the pipe connections, motor or V-belt drive. Manifolds and cylinders are separate and exposed to ambient temperatures. The main 4-in. suction stop valve connects with two scale traps. Capacity controls, when required, are actuated by the discharge pressure to hold open the suction valves of one or two cylinders in a bank. The valves are cooled by a water-jacketed plate. The water passes through a Frick Flexo Seal at the shaft. Bearing design is the same as that employed in diesel and aircraft engines. Dimensions are about 3½ ft. in length and width. Height to the suction valve is 44 inches.

▼ BREVITY—Identify by IEN-10100 if you write the maker ▼

## WELDING . . Arc electrode holder, insulated overall, 3/32 to 5/16 inch

Source: FIBRE-METAL PRODUCTS CO.
567 Tilghman St., Chester, Pa.



**List price** is $7 in lots of 1 to 11 of this new completely insulated arc electrode holder. The unit weighs 28 ounces. Two designs provide for soldered and quick-removable connection. Designations are No. 4-S and 4-H.

**Tip and sleeve** are covered with laminated glass cloth. The collar is Bakelite. The trigger is covered with neoprene. The handle is hard vulcanized fibre. The handle screw has a formed fibre cover to prevent arcing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN-10101 if you write the maker ▼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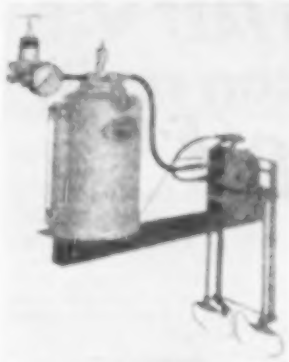
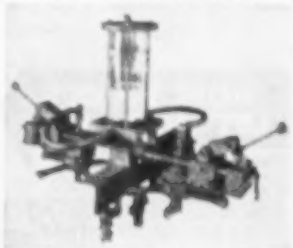


Automatic lubricator for a Twin-Trail type of Link conveyor, operating through a core oven, lubricates both bearings of the hubs and the pins in the outside of the wheels. The operation is entirely automatic. As each pair of trolley wheels pass the lubricator, they trip triggers which automatically release jets of oil fogged air on each side of two wheel bearings. Air pressure, volume of atomized lubricant, direction and timing of "shot" are subject to easy adjustment. Three machine screws will secure the lubricator to the conveyor rail . . . necessary to drill only three holes.

## AUTOMATIC CONVEYOR LUBRICATION

Simplified self contained grease lubricator is driven by contact with the trolley wheels. As trolley wheel approaches lubricator, hub engages sleeve of one of the five pumping units. Continued rotation of the lubricator forces the pumping unit inward, delivering a measured quantity of lubricant to the wheel bearing. Then a pawl located in the pump housing snaps the unit pumping unit into position to contact the next wheel. Operates on conveyor wheels equipped with, or without Zerk hydraulic fittings.



*Fauver engineers specialize in conveyor lubrication problems—send for complete information.*

THE J. N. FAUVER CO., INC.
49 WEST HANCOCK DETROIT 1, MICH.

▼ BREVITY—Identify by IEN-10103 if you write the maker ▼

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Please send me the free KIMPAK booklet on better ways to package our product.
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**Something NEW in a Lifting Magnet**

Here is a money-making scrap magnet. Picks 'em up and lays 'em down. Hour after hour, week after week, year after year. Endurance and strength second to none.

FEATURES LIGHT WEIGHT AND WELDED CONSTRUCTION and many more advantages worth investigating.

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SEND FOR CATALOG B-1401-A . . . the whole story on features, capacities, ratings, dimensions — what makes this magnet different, improvements that only Dings — the pioneer magnet builder — offers. Write today.

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Made in sizes to meet every heating need—exclusive features insure trouble free operation and maximum heat.

Complete heating units that save in many ways. They require no steam or water lines; no fuel storage; no boiler equipment; no fireman. Heat is generated within unit and forced to every corner of the room. *Write for complete specifications.*

**GENERAL GAS LIGHT COMPANY**
KALAMAZOO, MICHIGAN

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## TEMPERATURE MEASURING BEGINS WITH
# PRECISE THERMOCOUPLES

Installing dependable, responsive thermocouples at source of heat assures accuracy of temperature readings. There's a Thermo Electric Couple for your requirements—Industrial Furnaces and Ovens—Plastic Molding Machines—Chemical Processes—Oil Refining—Aircraft and Diesel Engines—in any process or product using pyrometric equipment.

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Chromel Alumel Thermocouple with Connector Head and Protection Tube

Tubular Iron Constantan Thermocouple shown sold at left position

Our 16 Page Catalog K describes all our equipment. Write for your copy today.

**Thermo Electric CO. INC.** FAIR LAWN NEW JERSEY

▼ BREEZE—Identify by IEN-10108 if you write the maker ▼

## RELAY . . For equipment protection against abnormal current and heat

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 868-A, Pittsburgh 30, Pa.

**New design** employing a permanent magnet core within the moving coil to cut required relay size in half constitutes improvement in the company's previously developed equipment protecting relay. The new units are known as Type DS and DT-3. The first applies in a dc circuit against over, under and reverse current. The second protects against dangerously high temperatures in ac and dc equipment. Both are single-pole, double-throw design.

**Operating voltage** for the current unit is supplied by a shunt in series with the protected circuit and in parallel with the moving coil in the relay. Thus the coil receives current in proportion to the current in the protected line and acts accordingly. An exploring coil in the windings of the protected equipment actuates the temperature-sensitive relay from its position as one leg in a resistance bridge.

▼ BREEZE—Identify by IEN-10109 if you write the maker ▼

## LAYOUT . . Adjustable parallels to position work on a machine table

Source: TINKER'S THREAD GRINDER CO.
134-8 Granby Road, South Hadley Falls, Mass.

**Two plates** made of cast iron with accurately finished edges and faces are connected by two cold rolled bars in this new parallel assembly. The bars are anchored in one plate and permit the other to slide. Thumb screws in the sliding plate provide for position locking. Four sizes measure 6 to 18 in. in plate length, 3 to 6 in. in height. The smallest opens from 3½ to 7½ in. the largest from 4 to 20 inches. List price starts at $15.

▼ BREEZE—Identify by IEN-10110 if you write the maker ▼

## MANAGEMENT . . Simplified financial statement forms part of company's report to its employees

Dow Chemical Co.
9127 Jefferson Ave., Midland, Mich.

**Each employee** of the company received a copy of new 36 page booklet . . Facts and Figures about Dow for 1956". Facts are given in understandable language. Figures are presented by captions on little schematic drawings to tell where the company's dollars came from during the last fiscal year and how they were spent. Similar captioned drawings show activity in group insurance, pension plans, service records, equipment, sales, employment.

*All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZE—Identify by IEN-10111 if you write the maker ▼

**PUT THIS *New Low Cost* IMO ON YOUR OIL LINES!**

Now you can have all the advantages of the IMO high speed operation equipment—freedom from vibration, compactness, reliability—at lowest price ever before.

Look at the cross-section and you will see why no other pump is quite so well suited for oil handling service.

The axial flow design permits oil to be pumped close to the rotating axis of the rotors. This means low liquid velocity and quiet operation at high speeds.

Large inlet areas provide smooth entrance of liquid into the pump and permit the handling of high viscosities at high suction lifts.

The ALLIA IMO has no stuffing boxes to leak or require packing, and best of all, it can be mounted in any position and be directly connected for operation at motor speeds.

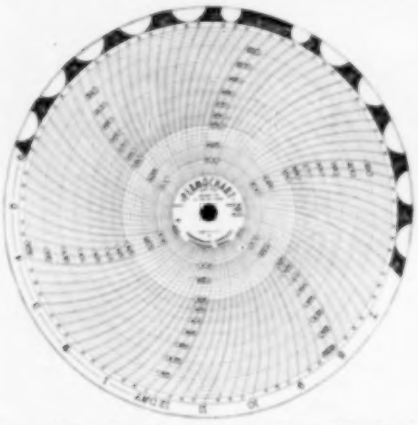
For your next oil handling job, be sure of the best . . specify the new low cost ALLIA IMO pump. Bulletin on request.

Send for Catalog 1918-Q

**IMO-DE LAVAL PRODUCTS DIVISION**
DE LAVAL STEAM TURBINE CO.,
TRENTON, NEW JERSEY

▼ BREEZE—Identify by IEN-10112 if you write the maker ▼

# LONG-LIFE PLASTIC CHARTS



***Reusable — PERMOCHART* — Washable***

*You can use WASHABLE, laminated plastic "PERMOCHARTS" * on all your circular recording and controlling instruments. Convenient to use, they'll save you time and expense.
• Guaranteed serviceable life—TWO YEARS. • Cost per day only $ .0020 to $ .0040. • Available for any instrument using circular charts. • Made of 100% "Vinylite" plastic laminated construction.

Send for sample of PERMOCHART construction

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390 CHESTNUT ROAD SEWICKLEY, PA.

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***THEY TAKE UP THEIR OWN WEAR***

The unique construction allows the wings to wear uniformly, regardless of age.

# LEIMAN *AIR PUMPS*

*For vacuums up to 29 in. and pressures to 25 lbs.*

## *LET AIR DO THE JOB FOR YOU*

Air can be the "invisible hand" to help you perform countless moving, holding, mixing, separating, blowing, and lifting operations. Investigate the possibility of letting vacuum or air pressure provided by a Leiman Air Pump do the job for you more easily and economically. Send us your handling problem today and let our engineers go to work on it. Over 50 years of air pump application experience may help you.

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AIR PUMPS • AIR MOTORS • SAND BLASTS • DUST COLLECTORS

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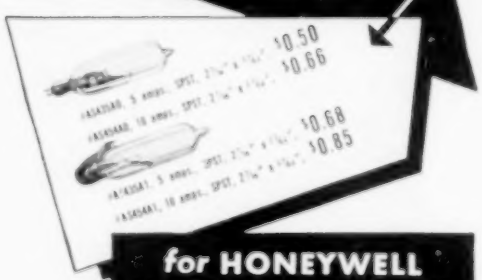


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Type numbers ending in "0" are without leads . . . type numbers ending in "L" include 7-inch, double cotton covered, extra-flexible leads. Prices are net for quantities of 100 and up.

Write for complete engineering specifications . . . or call the Honeywell branch office nearest you.

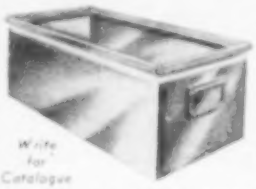
MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4456 Wayne Ave., Phila. 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

**Honeywell** MERCURY SWITCHES

▼ BREEZE—Identify by IEN-10115 if you write the maker ▼

# I-M-M-E-D-I-A-T-E D-E-L-I-V-E-R-Y

## BAY STACKING BOXES



1. Reinforced Corners
2. Drop Handle Each End
3. Spotwelded Construction
4. Four Rivets For Extra Strength
5. Continuous Stacking Rim All Four Sides

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ALL PRICES F.O.B. FACTORY

| Product Number | Width | Length | Height | Gauge Steel | Price Green |
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| 801D-18 | 10" | 16" | 6" | 18 | $2.05 |

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Phone: BAldwin 9-1805

**BAY METAL PRODUCTS**

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▼ BREEZE—Identify by IEN-10116 if you write the maker ▼

## NEW FREE BOOK TELLS How to Buy—How to Apply the Right Aluminum Paint

DID YOU KNOW there have been BIG changes made in aluminum paints—better vehicles, better pigments? That there's one type of aluminum for metal surfaces? Another for heated surfaces? And a third for weather-exposed wood?

ALCOA does not make paint, but we have prepared this book to help you select the right aluminum paints, made by leading paint manufacturers from Alcoa pigments. You'll find many valuable facts in this new, free, illustrated, 24 page booklet "Painting with Aluminum". Included are application instructions to insure maximum service; coverage tables, facts on correct types of ready-mixed aluminum paints for metal, masonry, wood, inside or out—and for heated surfaces. A copy is yours for the asking, by return mail. Fill out this coupon and attach it to your letterhead.

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ALUMINUM COMPANY OF AMERICA,
Paint Service Bureau, 1734K Gulf Bldg., Pittsburgh 19, Pennsylvania

Please rush me free copy of "Painting with Aluminum"

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City _____ State _____

We plan to paint the following _____

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

ALCOA ALBRON

▼ BREEZE—Identify by IEN-10118 if you write the maker ▼

## TRUCK . . Power lift fork design rates 1½ ton on 24 in. load center

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.

**Timer controlled** travel acceleration with drive speed maximum at 7.4 mph., safety locking against movement when the operator leaves his seat, direction-control levers for travel and for the separate motor-pump hoist movements characterize this new No. 20A electric truck in the company's Carloader line. The machine is mounted on cushion tires on a 44-in. wheelbase. It can be turned in 60-in. intersecting aisles. It measures 83 in. in lowered height, raises a load to 120 in. lift. The forks 0 to 3 deg. to the front and 10 deg. to the rear.

**Companion unit** to the electric-drive truck is the engine-driven assembly. It is available now with the new Dynaclark drive in which the engine drives one side of a magnetic induction coupling for the travel movements. There is no friction clutch and the transmission is limited to a 2-speed forward and reverse mechanism. Gear shifting is eliminated in operation in close quarters on short distances forward and back. The truck locks in neutral when the operator leaves his seat.

▼ BREEZE—Identify by IEN-10119 if you write the maker ▼

## DRIVE . . Roller chain connector employs double bushed center links

Source: DIAMOND CHAIN CO.
465 Kentucky Ave., Indianapolis 7, Ind.

**New design** of the company's connector unit for application in joining two ends of roller chain appears for multiple-strand chain of ⅝ in. pitch and larger in severe-service duty employing press fit chain design. The new link is a double assembly of plates with press fitted bushings that are hardened and ground to peace to provide a snug fit with the connecting pins.

**The pins** also are hardened and ground to exact diameter for a precision fit that provides capacity not available for the previous designs of light-duty slip fit connectors. End links in the connector assembly that in back of the retaining cotter pins are press fitted as in the previous design.

*All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 16*

▼ BREEZE—Identify by IEN-10120 if you write the maker ▼

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses; as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

**AMERICAN HAIR & FELT CO.**

Dept. X5010, Merchandise Mart Chicago 54, Illinois

▼ BREEZE—Identify by IEN-10121 if you write the maker ▼

## HILCO for Lubricating, Fuel and Industrial Oil Purifying . . To save oil, equipment and money

There is a HILCO unit available for every type of oil purifying problem.

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| Air compressors | Fuel oil | Quenching |
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*When oil is used it becomes contaminated and a HILCO will clean it. Tell us about your oil purification problems. FREE literature will show you how to solve them.*

**THE HILLIARD CORPORATION**

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# IF SATURATION IS YOUR PROBLEM...

this new booklet gives

# THE ANSWER!

To maintain proper humidification for your process, use TAG's Saturation Controller. This dependable instrument gives accurate temperature-humidity records, provides positive relative humidity control. Fully automatic, it continuously maintains the wet bulb depression for which it is set, regardless of changes in dry bulb temperature.

See for yourself how simple the TAG Saturation Controller is to install . . . how effectively it operates . . . how easily it can solve your saturation problem. Just write for the informative new technical booklet shown above.

**TAGLIABUE INSTRUMENTS DIVISION**

*Weston Electrical Instrument Corporation*

638 Frelinghuysen Avenue, Newark 5, New Jersey

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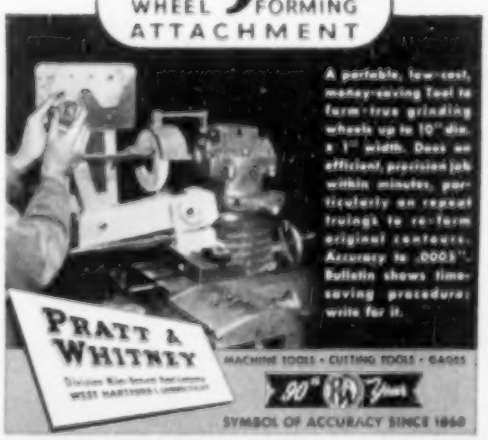
For Accurate Grinding of Flat Formers, Split Dies, Crusher Rolls, Circular Form Tools, and Similar Work.

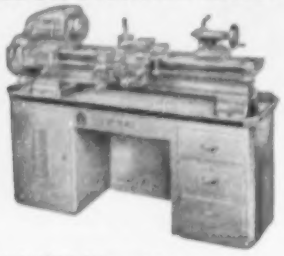
**Diaform**

WHEEL FORMING ATTACHMENT



▼ BREVITY—Identify by IEN-10124 if you write the maker ▼

## Replace for PROFIT with SHELDON Precision Lathes



The great bulk of every-day tool room jobs come within the capacity of Sheldon Precision Lathes—can be done with equal accuracy, at lower tool cost, lower power cost, in less time, and at greater profit on a Sheldon than it can on many of the costly, cumbersome, space-wasting older lathes found in most shops.

These extremely accurate (Zero Precision Taper Roller Bearings), large capacity for size (1½" hole thru spindle), light fast-easy to operate, space-saving, moderately priced lathes will turn out not only more pieces per dollar, but on many jobs, more pieces per hour, than most older large lathes. When figuring replacement of obsolete equipment, remember you can have two or more of these efficient little money makers for the tool investment you made for the large lathe you are replacing.

Write for Catalog

# SHELDON
CHICAGO

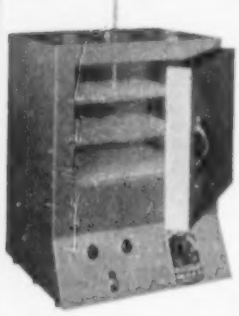
SHELDON MACHINE CO., INC., 4208 N. Knox Ave., Chicago 41, Ill.

▼ BREVITY—Identify by IEN-10125 if you write the maker ▼

ALWAYS ACCURATE, UNIFORM . . . NO TEMPERATURE VARIANCE!

## HUPPERT KH 1200 LABORATORY OVEN

*Designed for General Chemical and Analytical Work*



- Huppert Double Venting System
- Huppert Automatic Temperature Control
- Range: 0 to 392° F./200° C.
- Stainless Steel Work Chamber 12" x 10" x 10"

The HUPPERT KH 1200 OVEN provides equipment oven heat, insuring freedom from varying temperatures that affect test results. In addition, the Huppert Double Venting System controls dispersion of exhausted air from the oven. With the Huppert Temperature Control, you get positive temperature accuracy of ± 1° C. at any point in the oven range. Insulation is 1½" Thermo-Block throughout, for maximum heat retention and low operating cost. Alpo green enamel finish. O.D. 15½" x 21½" x 15".

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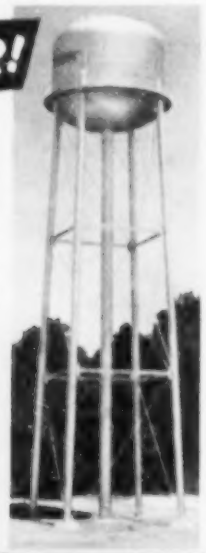
| Complete with Thermostatic Control | $80.00 |
| All Stainless Construction | $105.00 |
| Thermometer—additional to above prices | $5.00 |

**K. H. HUPPERT CO.**

6856 Cottage Grove Avenue Chicago 37, Illinois

▼ BREVITY—Identify by IEN-10126 if you write the maker ▼

## FIRE FIGHTER!



That's how this 100,000-gallon Horton* elevated tank is used at one of the Textron Southern Inc. mills. Should fire break out, the water supply in this new installation will go to work immediately. Gravity pressure is the reason. With elevated storage, water naturally flows into the sprinkler system. This means dependable protection 24 hours a day.

Horton ellipsoidal-bottom elevated tanks are built in standard capacities from 15,000 to 500,000 gallons, designed to meet your specific requirements. For complete information, write our nearest office. Be sure to state capacity required, height to bottom, location of proposed installation and type of insurance carried.

*Trade name for tanks built by

**CHICAGO BRIDGE & IRON COMPANY**

2123 McCormick Building • Chicago 4, Illinois

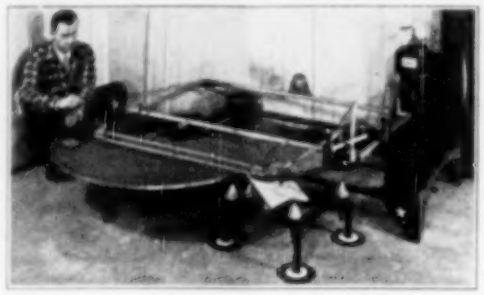
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

▼ BREVITY—Identify by IEN-10127 if you write the maker ▼

## CUTTING . . Pantograph machine mounts cutting torch to follow outline

Source: KROHN MFG. & SUPPLY CO.
50 Industrial Blvd., Centreville, Mich.



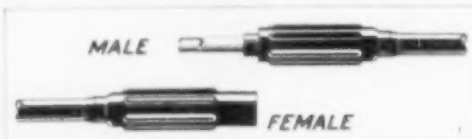
**Circles** to 24 in. in diameter, straight lines to 52 in. in length, irregular outlines to templates cut for the purpose or to a drawn layout can be cut with this new machine and the user's torch. Capacity is for work to 2 in. in thickness. Star Torch Holder is the designation. Ratio between template and work is 1 to 1.

**Two models** measure 7 by 9 ft. in width and length. Model A is 34 in. in height from the floor. Model B measures 11 inches. Weights are about 400 and 300 pounds. List prices for the two models are $349 and $298.

▼ BREVITY—Identify by IEN-10128 if you write the maker ▼

## CONNECTOR . . Neoprene molded unit joins welding cables quickly, safely

Source: MINES EQUIPMENT DIVISION
480 Oliver Bldg., Pittsburgh 22, Pa.




**Bayonet lock** in new male-and-female connector secures a welding cable for end-to-end assembly of a number of lengths to make up a desired run. The connector will withstand pull to 500 lb., insulates against electrical shock, excludes moisture and dirt from the conductor.

**Two sizes** are for 2/0 and 4/0 AWG wire sizes. Connect and disconnect is by a combination of twist and push or pull. The connector alone or molded assemblies integral with 36 in. leads are available to meet specified requirements.

▼ BREVITY—Identify by IEN-10129 if you write the maker ▼

## MANAGEMENT . . Short instruction courses to teach management how to handle economic discussions

American Economic Foundation
295 Madison Ave., New York 17, N. Y.

**"You've Hired His Hands"** (the new 20-page booklet that outlines the reasons for and the content of the series of Executive Seminars now being conducted by the Foundation. Intended purpose is to train management men to lead employee discussions of company economics, and to train others.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10130 if you write the maker ▼

## Let this all-purpose DEWALT save money in *Your* plant

Here is the ideal, all-purpose machine you need to cut costs and step up production in your plant. DeWalt is many machines in one! It dadoes, routs, shapes, tenons, grinds, sands, etc.! It's fast, accurate, safe, dependable. It takes up little floor space—and streamlines all your cutting operations. Write for catalog. DeWalt, Inc., 1010 Fountain Avenue, Lancaster, Penna.

**DEWALT INC.**
A subsidiary of American Machine and Foundry Co.

▼ BREVITY—Identify by IEN-10131 if you write the maker ▼

## *Right where you live* NEW BOSTON REDUCTORS

Speed Reducers *stocked* in the widest selection of types and sizes — and the one you want is *near at hand*, ready to take off the shelf of the one of *eighty* Authorized Boston Gear Distributors that is nearest you.

The new Boston Gear Catalog No. 55 makes it easy to select the one best Reductor (Speed Reducer) for your job. Write for free copy.

**BOSTON** REDUCTORS

*For More Trouble-free* HORSEPOWER *per Dollar* / HOURS *per Dollar*

**BOSTON GEAR WORKS**
63 HAYWARD ST., QUINCY 71, MASS.

▼ BREVITY—Identify by IEN-10132 if you write the maker ▼

## Uptegraff DRY TYPE *TRANSFORMERS*

IDEAL FOR INDUSTRIAL SERVICE

Useful information is given in the new Uptegraff Bulletin on Dry Type Transformers. The use of this equipment is growing steadily, due to the economies inherent in dry type transformer installations.

Write today for your copy of bulletin 126!

R. E. UPTEGRAFF MANUFACTURING COMPANY
SCOTTDALE, PENNSYLVANIA

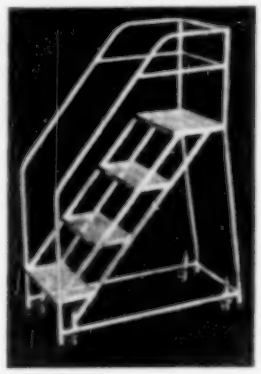
▼ BREVITY—Identify by IEN-10133 if you write the maker ▼

*For Savings Specify*

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N.Y.
36 N. CLINTON, CHICAGO 6, ILL.

▼ BREVITY—Identify by IEN-10134 if you write the maker ▼

# A REALLY *Safe* ROLLING STEP LADDER



*Casters carry ladder, but rubber tipped legs "lock" to floor when in use.*

High storage is no longer a hazard and pick-up or stock operations can be safely speeded when Ballymore all steel Safety Ladders are used.

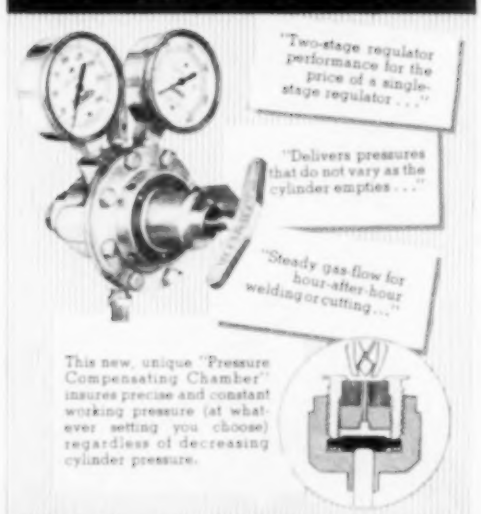
Available in one, two, three step models without handrails and three, four and six step models with handrails. Wire baskets, which leave both hands free, are optional.

*WRITE TODAY FOR FREE ILLUSTRATED CATALOG.*

**THE BALLYMORE COMPANY** Wayne 4, Pa.

▼ BREVITY—Identify by IEN-10135 if you write the maker ▼

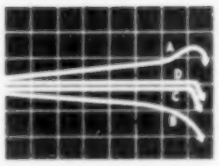
## TRULY REVOLUTIONARY
**. . . agree plants and shops everywhere!**




## TORCHWELD-"6500"
**REGULATOR WITH PRESSURE COMPENSATING CHAMBER**

This is the regulator that is winning preference in shops and plants everywhere because it costs only slightly more than the average single-stage regulator, but gives the precise control heretofore available only in higher-priced two-stage regulators. It is truly revolutionary, users agree.

As the diagram below shows, typical stem-type single-stage regulators (A) deliver increasingly higher working pressures as the cylinder pressure drops, and typical nozzle-type single-stage regulators (B) deliver progressively lower working pressures.



Now, the TORCHWELD "6500" (D) duplicates the constant pressure feature of the higher-priced two-stage regulator (C), but at a substantial savings in original price and maintenance. Investigate!

*Write for Illustrated Bulletin*

**NATIONAL CYLINDER GAS COMPANY**
844 N. Michigan Ave. Chicago 11, Ill.

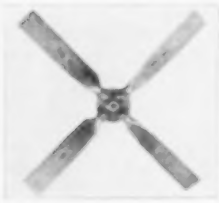
**NCG**
EVERYTHING FOR WELDING

Copr. 1950, National Cylinder Gas Co.

▼ BREVITY—Identify by IEN-10137 if you write the maker ▼

## VENTILATING . . Propeller type fan in range of diameters from 6 to 20 feet

Source: KOPPERS CO.
2047 Koppers Bldg., Pittsburgh 19, Pa.



**New adaptation** of the company's aircraft propeller is available in an adjustable-pitch design for operation at about 240 rpm. on equipment such as coolers for large engine water jackets, vertical-tube large condensers, large air conditioners. Blades are made of laminated birch with plastic covering that is not subject to attack by mild acids, alkalis and that will resist wear due to abrasion and outdoor exposure.

**Blade ends** are fitted with metal collars that are adjustable in the main hub for desired pitch. Each assembly is balanced. Largest unit in the line will deliver 500,000 cu. ft. per minute.

▼ BREVITY—Identify by IEN-10138 if you write the maker ▼

## FLOORS . . Iron-asphalt material for patching and resurfacing concrete

Source: MASTER BUILDERS CO.
Euclid & Thomas Ave., Cleveland 3, Ohio

**Illustrated data in 8 page bulletin Masterquick Method**

**Graded particles** of iron comprise 75 per cent of the composition of the company's new Masterquick asphalt-emulsion material to patch and resurface concrete floors. The material applies in a thickness of ¼ in. or less over considerable areas. It can be worked out to a feather edge without danger of spalling or falling under traffic. The fluid material is packaged in 20-gal. drums at a list price of $2.50 per gallon.

**A portion** of the material is employed to make a bonding coat over a cleaned area as it comes from the container. One gallon will coat 150 square feet. The surface mix to be troweled over the bond is made of 100 lb. of the material to 20 lb. of Portland cement and 1½ gal. of water. This is mixed to mortar consistency and then spread. One gallon of the material is sufficient to cover 10 sq. ft. to ¼ in. in thickness. The repaired floor is ready for traffic in 24 to 36 hours.

▼ BREVITY—Identify by IEN-10139 if you write the maker ▼

## STAPLING . . Combination tool to apply staples and also remove them

Source: BOSTITCH INC.
817 Mechanic St., Westerly, R. I.

**New design** of the company's Type B8 desk stapling tool includes a lifting blade mounted on one side to slide under a staple in order to remove it. The blade is attached permanently to the improved tool.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10140 if you write the maker ▼

## *Know the scope of the MARSH line of pressure gauges*

There are literally thousands of combinations of types, ranges, case styles and connections in the broad Marsh line of pressure, vacuum and compound gauges. As a result, gauge requirements that would be "special" to others are often standard to Marsh.

This means that we can meet your gauge needs better and more economically . . . whatever the service condition, quantity or design requirement. To know the scope of Marsh Instruments just ask for the new fact-filled catalog.

**MARSH INSTRUMENT CO.**
Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept.: 155 E. 44th St., New York 17, N. Y.

▼ BREVITY—Identify by IEN-10141 if you write the maker ▼

## Jacketed Pipe and Fittings

Jump-over pipes prevent heating (or cooling) medium from entering process pipe

**NOW AVAILABLE IN SPECIAL METALS FOR HANDLING CORROSIVE MATERIALS**

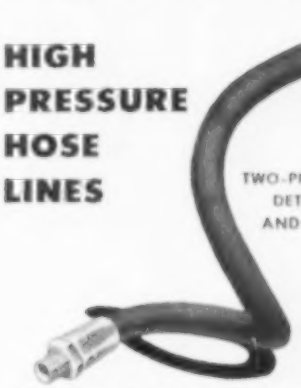
H & B Jacketed Pipe and Fittings, which have been used for years in processing non-corrosive materials, are now available in cast or welded steel, or stainless steel if required, for handling corrosive materials. In any processing operation where the maintenance of a uniform temperature in the process pipes is essential, an H & B Jacketed Pipe System will assure dependable, economical processing. We welcome inquiries on the handling of either corrosive or non-corrosive materials. Illustrated Bulletin J-50 will be sent on request.

**HETHERINGTON & BERNER, INC.**
725 KENTUCKY AVENUE • INDIANAPOLIS 7, INDIANA

▼ BREVITY—Identify by IEN-10142 if you write the maker ▼

**Aeroquip**

## HIGH PRESSURE HOSE LINES



TWO-PIECE FITTINGS DETACHABLE AND REUSABLE

Tube and cover of hose are made of synthetic rubber, oil and grease resistant, reinforced with two high tensile steel wire braids. Available in sizes: ¼, ⅜, ½, ¾, and 1 inch. Fittings, easily assembled, are also available to service all types of greasing equipment.

**AEROQUIP CORPORATION**
JACKSON, MICHIGAN

Eight strategically located sales offices and warehouses plus a nationwide dealer distributor organization make Aeroquip Products quickly available everywhere.

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

▼ BREVITY—Identify by IEN-10143 if you write the maker ▼

## The Answer is often: USE

## SHAF-TITE* ROLLS

**Many Patented Constructions**

*Choice of*

**METAL, RUBBER, or WOOD ROLLS**

**Send For NEW ROLL CATALOG No. 48**

INDUSTRIAL ROLL DIVISION
**RODNEY HUNT MACHINE CO.**
673 Main Street Orange, Mass., U. S. A.
*Reg. U. S. Pat. Off.
RODNEY HUNT

▼ BREVITY—Identify by IEN-10144 if you write the maker ▼

## Dollar and Cents Angle

### on Fafnir Sealed Ball Bearings

Figure it out yourself . . . you may be able to cut manufacturing costs by using one of the several types of Fafnir Sealed Ball Bearings.

These bearings simplify assemblies, cut out machinery operations and eliminate extra parts otherwise needed to provide and retain lubricants.

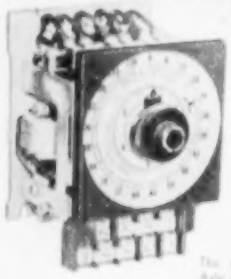
. . Find out . . . call in a Fafnir representative. The Fafnir Bearing Company, New Britain, Conn.

**FAFNIR**
**BALL BEARINGS**

**MOST COMPLETE LINE IN AMERICA**

▼ BREVITY—Identify by IEN-10145 if you write the maker ▼

## Eagle MICROFLEX RESET TIMER



MICRO TIME SETTINGS

The double Microflex Dial permits setting the time right on the dial—like a Microwatch. One complete turn of the inner dial advances the outer dial one division.

7200° DIAL

The patented Microflex Throttle Adjustment Power cuts 20 turns of the dial. Multiplied 10 times, 7200°, for more accuracy.

• WIDER RANGE OF ADJUSTMENT

Timer mechanisms equipped with Microflex Timers will have added utility. Jobs requiring short or long time periods can be accurately controlled by setting the Micro Dial.

• OVER 100 TIMER OPERATING COMBINATIONS

Each one of the three separate Microflex contacts can be set for seven different actions. Selection of the exact combination desired will eliminate additional relays.

Write for BULLETIN 110

AN EAGLE TIMER FOR EVERY TIMING PROBLEM

**EAGLE SIGNAL CORPORATION** Battle Creek, Michigan

▼ BREVITY—Identify by IEN-10146 if you write the maker ▼

## GET THIS INFORMATION ON

*The New Air-Hardening Tool Steel That Gives You:*

- EASY, LOW TEMPERATURE HEAT TREATMENT
- UNIFORM HARDENING IN VERY HEAVY SECTIONS
- MINIMUM DISTORTION & SIZE CHANGE
- RESISTANCE TO DECARBURIZATION
- GOOD MACHINABILITY

Carpenter VEGA gives you other cost-reducing "advantages". For full details on how VEGA can save you heat treating hours and dollars, send for the new folder. Just fill in the coupon or drop us a line on your company letterhead, indicating your title.

**THE CARPENTER STEEL COMPANY**
**151 W. Bern Street • Reading, Pa.**

Please send me, without obligation, the new Carpenter VEGA Folder.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____
(Please Print)

▼ BREVITY—Identify by IEN-10147 if you write the maker ▼

## PUMP . . Motor driven vacuum unit displaces 4.9 cfm., vacuum to .1 micron

Source: KINNEY MFG. CO.
3564 Washington St., Boston 30, Mass.

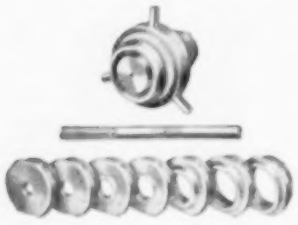
**Model CVD-3531** is a two-compound vacuum pump driven by a ½ hp. motor for operation at about 900 rpm. The pump is designed for general plant use at machines and equipment requiring evacuation or negative air pressure for handling purposes. Overall dimensions are about 10 by 14 by 16 in. including the channel base and the motor. Weight complete is about 130 pounds.

**Double reservoir** for sealing oil provides continuous purifying action. Both sides of the reservoir are accessible under cover plates for quick cleaning. A double rotary shaft seal with its own oil reservoir prevents air leakage along the drive shaft into the pump. A discharge oil trap prevents free oil from blowing through. The pump requires no warming up.

▼ BREVITY—Identify by IEN-10148 if you write the maker ▼

## THREADING . . Pipe nipple chuck applies in machine or with hand tools

Source: RIDGE TOOL CO.
352 Clark St., Elyria, Ohio



**Pipe** that has been threaded on one end and then cut off for manufacture of short nipples is turned by hand into threads in this new chuck until the nipple stops on a peg forming a part of the chuck. The unthreaded end is then presented so threads can be cut on it. When the" are completed the chuck is turned to release the finished work and again set for the next piece. Threaded adapters are available for ⅛ to 1½-in. pipe. The chuck takes 2-in. pipe direct.

▼ BREVITY—Identify by IEN-10149 if you write the maker ▼

## GRINDING . . Application information on abrasive discs and wheels in 50-page catalog

Carborundum Co.
116 & 74 Clinton St., Chicago 6, Ill.

**Tables** of peripheral speed, information on grades and markings of wheels, suggestions on mounts are included in new pocket catalog, "Resly Titan Abrasive Discs and Wheels". Also included are manufacturing details and list prices on Steelbac and other resinoid-bonded discs and wheels which the company makes to specification.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10150 if you write the maker ▼

BASA HAMMERS • FAVORITE WRENCHES • EMPIRE MALLETS — PALMETTO Packings — MORAN'S COUPLINGS • "TUSKO" WALRUS POLISHING LEATHER

## PALMETTO PACKING *with a Twist* TO CHOKE THE COST ON YOUR DOWNTIME

Reckon the "bargain" in makeshift packings in terms of constant maintenance, frequent repacking — and equipment failure . . . you'll understand why so many select Palmetto for greater economy in the long run.

Each strand of Palmetto Twist, for example, is built for 600 F superheated steam — thus gives bonus service at all lower temperatures.

Each strand is lubricant-impregnated for friction-free, self-lubricating performance. Will not harden. Will not bind valve stems or pump shafts.

Each strand is of high grade, high tensile Canadian white asbestos — quality that counts for better service, longer life all the way.

*Write for new folder LP-10*

GREENE, TWEED & CO.
NORTH WALES, PENNSYLVANIA

**Contact your fully-stocked Palmetto distributor on all packing problems . . . ask him about our special tools.**

▼ BREVITY—Identify by IEN-10151 if you write the maker ▼

## IN WIRE-MESH PRODUCTS LET JELLIFF DO IT!

*For 70 years we've been weaving Wire Mesh. And a good part of that time we have also been making things of Wire Mesh for people who find it is cheaper, easier and generally more satisfactory to "let Jelliff do it."*

*From big Dipping Baskets to tiny precision filters — from fuel strainers to what-is-it gadgets — JELLIFF's Custom Production Department turns out fabricated Wire-Mesh products at speed, price and precision that mean lower costs and a stronger competitive position for our many customers.*

*If you buy or make wire-mesh assemblies as components of your own products and have not yet had an estimate from Jelliff, write today for details. No obligation, even if you enclose a blueprint for us to figure on. Address Department 12.*

**THE C. O. JELLIFF MFG. CORP.**
DIPPING BASKETS • LEKTROMESH • RESISTANCE WIRE — WIRE MESH PARTS • WIRE CLOTH • STRAINERS • FILTERS
**SOUTHPORT CONNECTICUT**

▼ BREVITY—Identify by IEN-10152 if you write the maker ▼

## ANY WAY YOU LOOK AT IT...

*you can really read a*

## WESTON

### ALL-METAL THERMOMETER

Up in the air, down in a pit, across the shop . . . you can really read the big, open dial of a Weston Thermometer. And because these rugged, all-metal instruments stand exposure, abuse—you know the temperature you read is *right*.

Despite the angle of tank side or pipe, there's a Weston Thermometer to fit it. You can get models with stems that are long or short, that project straight from the back or out the side at any 15° position around the periphery of the thermometer head—whatever you need for *your* application.

Various industrial, "Max-Min, and contact-making types are standard. Consult your Weston representative, or write Weston Electrical Instrument Corporation, 688 Frelinghuysen Avenue, Newark 5, New Jersey . . makers of Weston and Tagliabue instruments.

**WESTON** *Instruments*

▼ BREEZY—Identify by IEN-10154 if you write the maker ▼

FLAT WASHERS
LOCK WASHERS
TO MEET
ARMED FORCES SPECIFICATIONS

HERE THEY ARE—QUICK DELIVERIES!

We manufacture a complete line of high quality washers made to meet the most exacting specifications of the Army, Navy and Air Force. These product-proved washers include:

AN 935 AN 950 AN 961 NAS 143
AN 940 AN 955 AN 970 NAS 143C
AN 945 AN 960 AN 975
Ordnance BEBX1 Ordnance BEBX3
Ordnance BEBX2 Ordnance BECX3
and many others

We can supply them in regular steel, spring steel, stainless steel, brass, bronze, monel metal, aluminum, Alclad and copper as specified. We plate them with zinc, cadmium, nickel, brass, chrome . . . or they can be parkerized.

Garrett, as a manufacturer, offers you one source and quick deliveries on all types of small parts—flat washers, spring lock washers, stampings, springs, hose clamps, snap and retainer rings. Write for new folder of specifications for Armed Forces washers.

Manufactured by
GEORGE K. GARRETT CO., Inc.
Philadelphia 34, Pa.

GARRETT OF PHILADELPHIA


▼ BREEZY—Identify by IEN-10155 if you write the maker ▼

SAFETY FOR YOUR MEN...
VALUE FOR YOU
with
U. S. NEOPRENE GLOVES

They help prevent costly accidents. • They withstand gasolines, oils, greases, and corrosive chemicals such as sulphuric, chromic, and muriatic acids, caustic and plating solutions. • The rough-surface fingers assure positive easy gripping. • They're comfortable because the curved finger construction conforms to the natural curve of hand, eliminates straining and pulling. Highly flexible, they permit easy, natural working motions. These "U. S." gloves withstand tough service. Full range of sizes, lengths and weights. "U. S." technical men will be glad to analyze your glove needs and recommend the correct glove for your job.

U. S. INDUSTRIAL GLOVES
UNITED STATES RUBBER COMPANY


▼ BREEZY—Identify by IEN-10157 if you write the maker ▼

## SOLENOID . . Short stroke push unit, service life to 10 million operations

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Form CR9501 is a new short-stroke solenoid initially developed for high-speed operation on pilot valves. It is suited for any industrial application requiring push operation through a ⅛ or a 5/16 in. stroke with about 4 to 8½-lb. rating. Input can be specified at 110 to 220 volt 50/60-cycle ac. Assembly is on a base plate bound to place. The stainless-steel push plunger moves through the center of this plate. Base dimensions are 2 by 2½ to 3 inches.

**Construction** employs a paper-layer wound coil carrying 12 in. insulated leads with the coil and coil lead connections enclosed in a sealed molded plastic block of the company's material Permafil. This block is not subject to cracking or absorption of oil or moisture. It protects against shock and vibration. The coil yoke inside provides laminations and surrounds the stem of a T-shaped armature. Over the armature is a stainless-steel backstop assembly with a neoprene bumper pad.

▼ BREEZY—Identify by IEN-10158 if you write the maker ▼

## HEATING . . Unit space heaters for operation with steam or hot water

Source: NATIONAL RADIATOR CORP.
219-23 Central Ave., Johnstown, Pa.

**Rating** is 25,000 to 300,000 btu. per hr. for this new unit heater in horizontal design. It is 32,000 to 300,000 btu. per hr. for the vertical unit, all based on 2-lb. steam and 60-deg. F. entering air temperature. There are 24 sizes in the horizontal assembly, 16 in the vertical line and an additional 14 for use with high-temperature steam.

**Construction** employs standard or heavy-duty cores made of seamless copper tube, copper aluminum fins bonded by hydraulic expansion of the tubes. The motor-driven fans are propeller design and are surrounded by a directional shroud which forms part of the outer steel housing. Air handling capacity ranges from 250 to 4,320 cfm. overall.

**Bulletin**, "Unit Heaters". 16 pages, presents illustrated information on the new line with capacity tables, dimensions, data, selection suggestions, installation instructions.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREEZY—Identify by IEN-10159 if you write the maker ▼

▼ BREEZY—Identify by IEN-10160 if you write the maker ▼

▼ BREEZY—Identify by IEN-10161 if you write the maker ▼

The GUARDIAN Series 220 A.C. RELAY

*Series 220 operates as an A.C. Relay capable of breaking currents up to 20 amps. at 230 v., 60 c., A.C., non-inductive load. Contacts are same alloy used in Guardian Solenoid Contactors, specially compounded to withstand high loads. Dual contacts reduce arcing to a minimum. Standard hermetically sealed unit weighs 6.2 ounces. Highly insulated. Compact. Low priced.*

GUARDIAN ELECTRIC
1621 W. WALNUT STREET CHICAGO 12, ILLINOIS


▼ BREEZY—Identify by IEN-10162 if you write the maker ▼

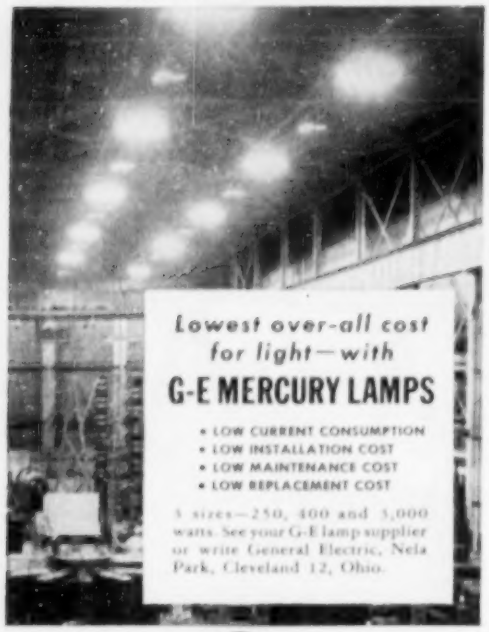

NOW GRIND RELIEF ON SPIRAL-FLUTED TOOLS
FAST—EASY—ACCURATE

The Circularity-Grinding Attachment easily and accurately produces form, radial or form and radial relief together on any length of spiral flute . . . on straight or tapered tools. Amount of relief and spiral is set up by scales on attachment and every tool has identical relief from same set-up.

No special fixtures required for any tool and attachment fits any cylindrical or cutter grinder. Work held between centers or in chuck. When not grinding relief, attachment operates as motor driven headstock for grinding straight and tapered cylindrical work.

SEND FOR BULLETIN
DETROIT REAMER & TOOL CO.
*Mfrs. of Special High Speed Cutting Tools*
2831 East 7 Mile Road Detroit 12, Michigan

BREVITY—Identify by IEN-10163 if you write the maker




GENERAL ELECTRIC

BREVITY—Identify by IEN-10164 if you write the maker

BREVITY—Identify by IEN-10165 if you write the maker

*If the Buckets in Your Steam Traps Act Like This... Switch to Super-Silvertops with Guided Buckets*

If the buckets in your steam traps wobble like an old car, switch to Super-Silvertops. Only Super-Silvertops have guided buckets which prevent sloppy bucket action. A guided tube controls the bucket, eliminating bucket swing which causes bucket damage and high replacement costs. In addition the exclusive Super-Silvertop bucket lever assures positive seating . . . preventing costly leakage of live steam. Only Super-Silvertops give you these cost-saving advantages. These features, plus information on the sizing of steam traps for installations, are discussed in Anderson's book, "Solving Steam Trap Problems." Write for your copy today.

SUPER-SILVERTOPS SAVE MONEY • STRAIGHT IN LINE • OR AS AN ELBOW

THE V. D. ANDERSON COMPANY
1956 West 96th Street • Cleveland 2, Ohio

Gentlemen: Please send without obligation "Solving Steam Trap Problems."

Name

Address

City State

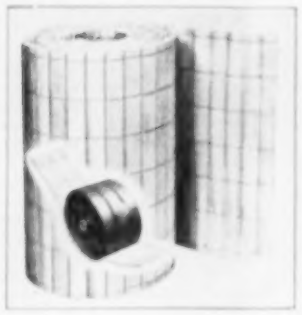
In Canada: Bowden Machine Co., Toronto

SUPER-SILVERTOP STEAM TRAPS

BREVITY—Identify by IEN-10166 if you write the maker

**PACKAGING . . Wire woven wood slats to protect bulky products in shipping**

Source: G. B. LEWIS CO.
4 Montgomery St., Watertown, Wis.



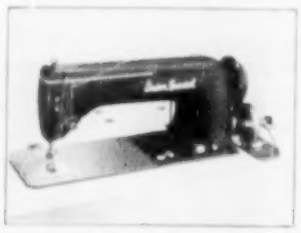
**Gears, pulleys,** coils of wire, cable, heavy castings, open sides of crates are representative points for application of this new wood slat wrapping material. It is based on the construction developed by the company some time ago for its lines of material-handling boxes.

**The wood** is northern elm. The finished wire-woven assembly is available in 5 to 37-in. widths. Rolls contain 200 ft. in standard manufacture. The light weight makes any added shipping charges negligible.

BREVITY—Identify by IEN-10167 if you write the maker

**SEWING . . Lockstitch machine for light and medium rayon, cotton**

Source: UNION SPECIAL MACHINE CO.
398-402 N. Franklin St., Chicago 10, Ill.



**Class 61400** is a new single-needle lockstitch machine that has been designed primarily to sew medium and light-weight rayon, cotton, nylon at high speed without cutting or showing feed marks. It employs a silent helical-gear drive which operates in a sealed oil bath between the main and top shafts. The positive feed prevents skipped or shortened stitches at high speed.

**Construction** includes a new stitch-regulating mechanism with pushbutton control for adjustment, a short light-weight presser bar to give the operator the feeling of effortless smooth action. The needle is positioned in a bar to eliminate the needle head and permit a stiff needle construction.

BREVITY—Identify by IEN-10168 if you write the maker

**PLASTICS . . Suggestions on liquid storage in bulletin on how to store plasticizers in bulk**

Monsanto Chemical Co.
1700 S. Second St., St. Louis 4, Mo.

**Typical flow diagram** to show piping layout and a drawing of vertical storage tank construction are included in new 16-page Technical Bulletin 0-69. Information includes materials of tank construction to handle plasticizers, pumps, tank-car unloading, safety precautions. Viscosity-temperature curves and other data are given on 11 plasticizers.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BREVITY—Identify by IEN-10169 if you write the maker

BREVITY—Identify by IEN-10170 if you write the maker

IN the shop or on the job, here's the handiest handful of cutting power you've ever used. The Kett Saw cuts plastics and other soft material up to ¼" thick, aluminum to 3/16", and mild steel and galvanized metal up to 10 gauge, for intermittent use. No starting hole required to cut straight lines or curves of 6" radius or larger. Tough, long lasting blades are easily changed.

For complete information and action photos, write for Bulletin A-10.

THE KETT TOOL COMPANY
5 EAST THIRD STREET CINCINNATI 2, OHIO

BREVITY—Identify by IEN-10171 if you write the maker

MULTI-CLEAN Method

FOR EITHER OLD OR NEW CONCRETE

Cut maintenance time and expense for concrete floors with Multi-Clean Neo-Dry Concrete Sealer. Available in 7 attractive, permanent colors. Neo-Dry is a penetrating sealer, easily applied with brush or applicator. So fast-drying that two coats can be applied within an hour—floor will be ready for hard use in from one to two hours following second coat. Will not dust or chip, and is extremely resistant to abrasion, water, grease, alkalies, soaps, oils, acids.

FOR EVERY FLOOR

There's a Multi-Clean Method for every type of floor—a carefully planned, thoroughly tested and proved procedure for floor maintenance. The Multi-Clean Method saves time and labor, combines the use of Multi-Clean Liquid Floor Chemicals and Floor Machines for better looking, longer lasting floors.

FREE—MULTI-CLEAN FLOOR MAINTENANCE MANUAL

Multi-Clean has prepared a complete series of maintenance manuals answering every floor problem. Write today, and name your type of floor—address Multi-Clean Products, Inc., Dept.BB, St. Paul 1, Minn., for a free copy.

MULTI-CLEAN
Custom Cleaning Chemicals
Floor and Rug Machines • Permanent Floor Finishes • Industrial Vacuums

BREVITY—Identify by IEN-10172 if you write the maker

*First Line of Defense*

WECO No-Gall . . . 50% pure metallic zinc base

WECO Steel-Aid . . . 65% pure metallic lead base

WECO Hi-Speed Seal. Permanent, non-hardening, always ready for immediate use . . . best defense against thread leaks in casing, tubing and other threaded connections.

AGAINST GALLED THREADS

WECO No-Gall and WECO Steel-Aid establish an unbroken protective film between mating surfaces . . . a metallic film accepted by leading authorities as the best defense against galled threads in tool joints and drill collars.

Consisting of powdered metallic bases blended with neutral grease binders and tacky additives, these WECO Thread Compounds require no thinner, never harden, contain no compressible fillers and will not squeeze out under high torque.

When you buy thread compounds, specify "WECO" . . . no better thread protection is available.

SOLD THROUGH ALL LEADING SUPPLY STORES

WELL EQUIPMENT MFG. CORP.
Subsidiary of Chiksan Company
Houston 1, Texas
Exclusive Sales Representative Outside Mid-Continent Area
CHIKSAN COMPANY
Bres. Calif. New York 7
Export Sales: CHIKSAN EXPORT COMPANY, Bres. Calif. New York 7

WECO
Manufacturers and Distributors of Valves, Safety, Marine and Industrial Equipment

▼ BREVITY—Identify by IEN-10173 if you write the maker —▼

*When Electric Power Fails . . .*

## Prevent Spoilage of Materials in Process

with

**ONAN STANDBY ELECTRIC PLANTS**

Model 5081
10,000 watts, A.C.

**An Onan Standby Electric Plant**

matic controls starts by itself and takes over the job of supplying electricity whenever commercial power fails. Processing and assembly lines, refrigeration, heating and ventilating systems, and lighting continue to operate with only a few seconds of lost time. This insurance is inexpensive, one power failure may pay the entire cost of the electric plant. Built for heavy duty use, Onan plants will run continuously if necessary. 1,000 to 75,000 watts A.C. Operate on natural gas, gasoline or with Diesel engine power. Shipped complete. Ready to run.

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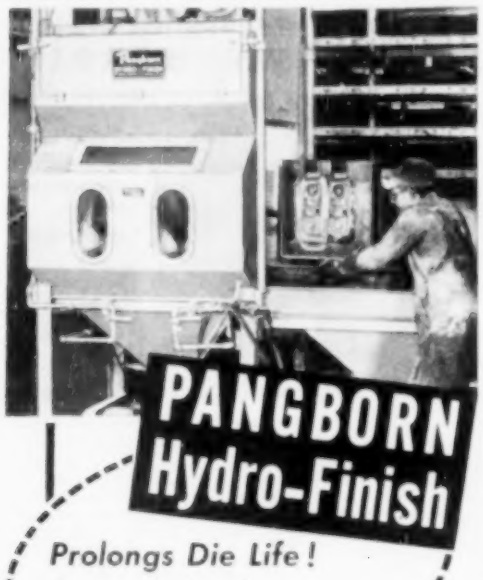
**D. W. ONAN & SONS INC.**
2726 Royalston Ave., Minneapolis 5, Minn.

▼ BREVITY—Identify by IEN-10174 if you write the maker —▼



## PANGBORN Hydro-Finish

*Prolongs Die Life!*
*Saves Labor!*
*Eliminates Emery Cleaning!*

for ROCKFORD DROP FORGE CO.
Rockford, Illinois

**HYDRO-FINISH** increases die life for Rockford Drop Forge by eliminating surface-disturbing emery cleaning at end of runs. Hand polishing is cut to a minimum because it's done **before** heat treating. Hydro-Finish removes all heat-treat scale, holds lubricants and leaves surface smoother than hand polishing. Economic show Hydro-Finish will pay for itself out of savings in two to three years!

**HYDRO-FINISH** simplifies manufacture and maintenance of tools, dies and molds. Costly hand work is reduced and surfaces are virtually free from directional grinding lines. Hydro-Finish assures better bonding, electroplating, painting — gives you the surface you want WHEN NEED!

**FOR FULL INFORMATION** on how Hydro-Finish can save you money, write today for Bulletin 1400A to: **PANGBORN CORPORATION**, 2200 Pangborn Blvd., Hagerstown, Maryland.

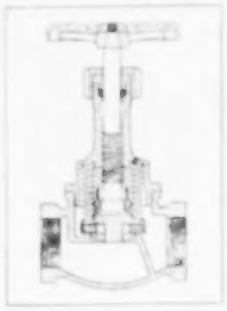
Visit our Booth No. 2560
NATIONAL METAL CONGRESS AND EXPOSITION
CHICAGO, ILL.
Oct. 23-24-25-26-27.

**Pangborn**
**BLAST CLEANS CHEAPER**
with the right equipment for every job

▼ BREVITY—Identify by IEN-10176 if you write the maker —▼

## VALVE . . Bellows sealed globe for vacuum lines, 1 to 3 in. sizes

Source: NATIONAL RESEARCH CORP.
68-72 Memorial Drive, Cambridge 42, Mass.



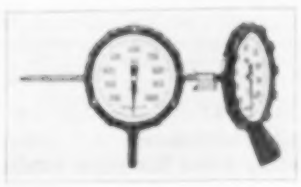
**Brass bellows** eliminates the need for stem packing in this new globe valve which has been designed particularly for use in vacuum lines. The bellows seals between the bonnet and the disc holder and at the same time permits stem movement for opening and closing.

**Bodies** are made of bronze in threaded and in flanged designs. Standard disc is made of neoprene with other materials to specification. Length or distance between body faces is about 5⅝ in. in the 2-in. size.

▼ BREVITY—Identify by IEN-10177 if you write the maker —▼

## THERMOMETER . . Bimetal design reads temperature to 1,000 deg. F.

Source: BACHARACH INDUSTRIAL INSTRUMENT CO.
7002 Bennett St., Pittsburgh 8, Pa.



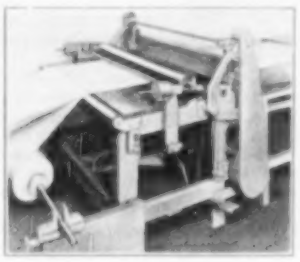
**Tempoint** is a new dial-type bimetal thermometer in which a bimetal coil rotates a stem-enclosed shaft on change in temperature. The shaft carries a pointer on the instrument dial which is graduated from 200 to 1,000 deg. F. The pointer is V shaped and is colored bright red to contrast with the black figures on the white dial.

**Housing diameter** is 3 inches. Stem length is 5⅛ in. of which 2 in., when immersed, will provide accurate reading.

▼ BREVITY—Identify by IEN-10178 if you write the maker —▼

## SHEARING . . Roll feed machine for fabrics, rubber, plastics, paper

Source: HOBBS MFG. CO.
46 Salisbury St., Worcester 5, Mass.



**Width capacity** is to 50 in. and length can be any amount desired in operation of this new motor-driven roll feed shearing machine. When operating on thin sheet or roll materials several thicknesses can be fed at one time in connection with an end gage, photocell, feed-roll actuator, contact switch. Speed is to 70 strokes per minute.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30*

▼ BREVITY—Identify by IEN-10179 if you write the maker —▼

"LOOK, SAM, MEETING TOUGH TEST SPECS IS NO PROBLEM NOW . . . EVEN . . ."

# No. 41065-B

(U. S. A. F.)

The TennyZphere Altitude Chamber shown here was built to run environmental tests on aircraft electrical components, in accordance with 41065-B. Conditions met: Group 10 (high temp. tests), Group 20 (low temp. tests), Group 30 (humidity tests), and Group 40 (high altitude tests). Specified range from −103° F. to +200° F. Relative humidity—20% to 95%. Altitudes to 85,000 ft. Sizes from 3 cu. ft. to walk-in rooms.

Experience, hard and practical, is the reason why Tenney can build test chambers to meet the toughest industrial and government specifications. Standard Tenney units accurately control mildew resistance, altitude, explosion, proof, liquid immersion and other tests. Basic systems can be combined for complex conditions. Tenney program control assures absolute fidelity in changing times and conditions; electronic controllers provide high precision regulation. For literature and further information, write to Tenney Engineering, Inc., Dept. C, 26 Avenue B, Newark 5, New Jersey.

Manufacturers of Automatic Temperature Humidity and Pressure Control Equipment

**Tenney**

▼ BREVITY—Identify by IEN-10180 if you write the maker —▼

## For Really Accurate Constant Weigh Feeding!

*The Always Dependable*

*SYNTRON*

## GRAVIMETRIC FEEDERS

— with their purely "ELECTRONIC" instantaneous correction of even the slightest variation in weight in the flow of bulk material, offer accuracies far beyond those possible with mechanically controlled equipment.
Small sizes for weigh feeding chemical reagents — up to huge models for hundreds of tons per hour of ore, coal, limestone, etc.

*Write for brochure on Weigh Feeding*

**SYNTRON CO.**
410 Lexington Ave. Homer City, Pa.

▼ BREVITY—Identify by IEN-10181 if you write the maker —▼

## NEW Starrett TOOL With Time-Saving Features

*Makes Measuring More Precise — Faster, Easier, Error-Proof*

**VERNIER HEIGHT GAGE No. 354**

With Slotted Base — Reads Direct From 0-6"

Slotted base permits direct measurements from any plane surface without calculations . . . a great time saver for toolmakers, inspectors, layout men. Fine vertical adjustment facilitates accurate measuring or scribing. Scriber readily removable for sharpening and reversible with convenient mounting hole for dial indicator. Other features: adjustable Vernier plate; base and scriber hardened and lapped; hardened bar; accurate, easy-reading, machine-divided graduations.

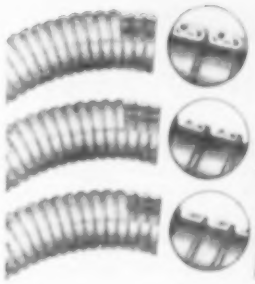
**FOR COMPLETE INFORMATION**

Starrett *New Tools Booklet* describes and illustrates Vernier Height Gage No. 354 and over 60 more new Starrett Tools. Write for your free copy today. Address: Dept. N.

**Starrett** *Standard of Precision*
Buy Through Your Distributor

THE L. S. STARRETT CO. Works Greene Collection ATHOL, MASSACHUSETTS, U. S. A.

▼ BREVITY—Identify by IEN-10182 if you write the maker —▼



**Strong! Durable! Flexible!**

## UNIVERSAL METAL HOSE

Simplify your installation and multiply efficiency of operation under extremes of pressure, temperature and vibration with UNIVERSAL Flexible Metal Hose. Each type satisfies to the highest degree requirements for hard, rough service and resistance to corrosion. The new UNIVERSAL Catalog U-101 gives details on hose types, sizes, applications and shows how UNIVERSAL Flexible Metal Hose can meet your needs exactly and help you cut cost. Ask for your copy.

**ALL TYPES**
Exhaust • Suction
Blower Hose • Conduits
Pressure Hose
Fittings

**ALL CONSTRUCTIONS**
Seamless Flexible Hose
Interlocked High-Pressure Hose
Interlocked Exhaust and Blower Tubing
Square-Locked Low-Pressure Tubing

RECOMMENDATIONS on your present hose convenience problem submitted without obligation. Send us your specifications TODAY.

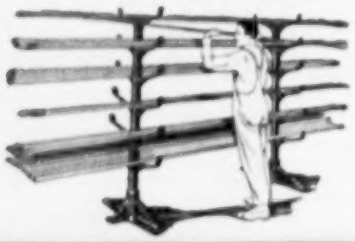
**UNIVERSAL METAL HOSE CO.**
2131 S. KEDZIE AVENUE CHICAGO 23, ILLINOIS

▼ BREVITY—Identify by IEN-10183 if you write the maker ▼

## SPEEDS UP STOCK-ROOM SERVICE

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist; depreciation is practically nil. SEND FOR BULLETIN No. 26-E DESCRIBING

BROWN'S *QUICK-SERVE* RACKS



**BROWN ENGINEERING CO.**
122 NORTH THIRD STREET READING, PENNA.

▼ BREVITY—Identify by IEN-10184 if you write the maker ▼

*Here's Equipment Built to Stand Up Under Your Production Requirements for*

**METERED PRESSURE PUMPING**

*of Such Chemicals as:*

SULPHURIC ACID • SODIUM HYDROXIDE
LIQUID CHLORINE • HYDROCHLORIC ACID
SLURRIES • CHLORINATED HYDROCARBONS
HYDROGEN PEROXIDE • NITRIC ACID
HYDROFLUORIC ACIDS • OLEUM • PROPANE
CYANIDE COMPOUNDS • STYRENE • FREON

- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

**Lapp PULSAFEEDER**

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 762 with complete description and specifications.
LAPP INSULATOR CO., INC. PROCESS EQUIPMENT DIVISION 525 MAPLE STREET, LE ROY, N. Y.

▼ BREVITY—Identify by IEN-10185 if you write the maker ▼

New **Cordan** leather belting does not stretch!

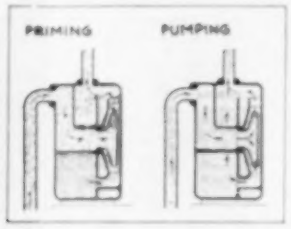
- Maintains Constant Tension Less Slippage and Longer Life
- Backed by our Liberal Guarantee

**S. R. SIKES COMPANY**
*Established 1881*
1026-30 S. Third St., Minneapolis 15, Minn.

▼ BREVITY—Identify by IEN-10186 if you write the maker ▼

## PUMP . . Self-priming centrifugal, ¼ to 5 hp., to 120 gpm. and 135 ft.

Source: GOULDS PUMPS INC.
301 Fall St., Seneca Falls, N. Y.




**Four assemblies** with motor drive have been added to the company's self-priming centrifugal pump with engine drive, previously described IEN-5328-50. One of the four is illustrated. Each is available with open or enclosed impeller. Operation is at 1,750 or 3,500 in given units in the line. No valves are required in the self-priming action. Suction lift is to 25 feet.

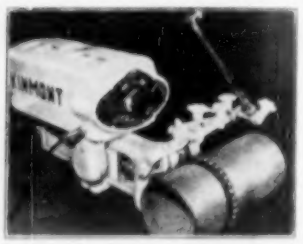
**The pump housing** is designed to retain sufficient water so the pump will prime itself following a period of inaction. This is accomplished by recirculation to exhaust the air in the suction line and build up the intake vacuum. Operation continues in normal manner when the air has been removed and the suction line is filled with liquid. Volatile liquids, light oils can be handled as well as water.

**Bulletin 636.1**, 8 pages, provides illustrated description covering construction, operation, materials, available assemblies, ratings for open and enclosed-impeller designs, dimensions.

▼ BREVITY—Identify by IEN-10187 if you write the maker ▼

## CUTTING . . Torch attachment and rotating drive for pipe, tanks

Source: ROYLYN INC.
716-26 W. Wilson Ave., Glendale 3, Calif.




**The company** has taken over manufacture of the Kinmont motor-operated chain-connected rotating drive for pipe and for roller mounted tanks, previously described IEN-8528-48. It is offering the drive and also the torch attachment previously described IEN-1739-49. Assembly of the drive and attachment is shown in the illustration.

**The drive** employs a universal motor for operation on 110-volt ac or dc with a rheostat speed control and a reversing switch. The motor operates a transmission mounting a chain sprocket. The sprocket drives a chain with quick-opening link for chain application around a pipe. Lateral adjustment permits pulling the chain in so the pipe rides tightly between it and a pair of idler rollers for traction that will produce the turning movement.

**The torch attachment** mounts on the drive. It is adjustable to take various sizes of torch and to position it as required. Torch and drive can be applied on any pipe or cylindrical suitably mounted tank with rotating weight to 20,000 pounds.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-10188 if you write the maker ▼

## *More for your money!*

New SINGLES WHEELS — with sealed-in ball bearings that keep grease in, dirt out and eliminate axle wear—make American Hand Trucks a better buy than ever! **And most popular models now sell for less than before!**

The side rails and cross bars of these handier red trucks are channel-section steel for hard-hitting service. Pressed-steel bolted construction keeps maintenance costs down. Light weight and finger-tip balance make them the easiest-handling models you can use! Choose American Hand Trucks from 50 types and sizes for most efficient materials handling of almost any job . . . stocked by distributors everywhere.

**AMERICAN PRESSED-STEEL HAND TRUCKS**

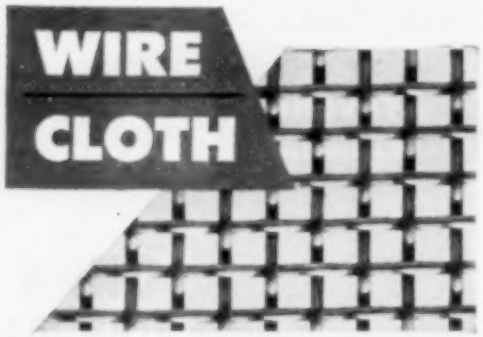
*The American Pulley Company*
4242 WISSAHICKON AVE., PHILA. 29, PA.

Please send Free American Hand Truck Bulletin to

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

▼ BREVITY—Identify by IEN-10189 if you write the maker ▼

## WIRE CLOTH



## For every industrial use

Cal-Wic Wire Cloth is available in a wide selection of weaves, weights and meshes . . . fabricated in various types of metals and alloys for resistance to corrosion, abrasion or high temperatures.

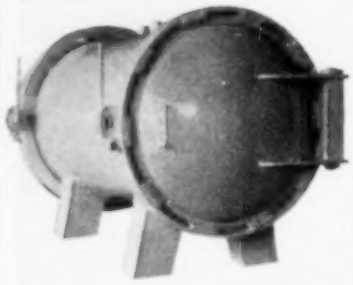
Whether you use wire cloth in the manufacture of original equipment, or in screening, filtering, grading, cleaning or processing, it will pay you to investigate the cost-cutting advantages of long-wearing Cal-Wic Wire Cloth. Write for illustrated descriptive booklet.

**CAL-WIC** INDUSTRIAL SCREENS CF&I

IN THE EAST — WICKWIRE SPENCER STEEL DIVISION • Clinton, Massachusetts
IN THE WEST—CALIFORNIA WIRE CLOTH CORPORATION • Oakland 6, California

▼ BREVITY—Identify by IEN-10190 if you write the maker ▼

## Save Production Hours With HARRIS



- NO BOLTS
- SAFETY APPROVED
- CORROSION FACTOR ADDED
- LOWER PRICED
- LOWEST MAINTENANCE
- HYCAR FULL CIRCLE GASKET

### Quick Opening *Safety* Doors

Harris Doors and Pressure vessels are in use throughout the RUBBER, CHEMICAL and FOOD Processing industries. —the Harris Door is A.S.M.E. Approved, and has many friends as proven by the repeat orders we have received over the years since Tedd Harris first designed the Harris Door.—We can design and build a HARRIS DOOR or vessel for YOUR Process. —Any Size—For any working PRESSURE.—In Any metal.

**TEDD HARRIS CO.**
197 WHEATFIELD STREET, NORTH TONAWANDA, NEW YORK
Engineers • Manufacturers

▼ BREVITY—Identify by IEN-10191 if you write the maker ▼

## PUSH BUTTON INSULATION RESISTANCE TESTING

with

## VIBROTEST

- RANGES TO 50,000 MEGOHMS
- NO CRANKING
- NO LEVELING
- ALL-ELECTRIC
- RUGGED
- FULLY PORTABLE
- ACCURATE

VIBROTEST is built throughout to make insulation resistance testing FAST, EASY and ACCURATE for you. No laborious cranking. No mechanical parts to get out of order. Only two binding posts for ALL tests. Several Models have A.C. and D.C. volt ranges, as well as low resistance ohmmeter.

This is an instrument that makes insulation resistance testing a "push button" affair! Ask for more information.

WRITE FOR BULLETIN 2-A

**ASSOCIATED RESEARCH, Incorporated**
"Precision Instruments Since 1930"
3762 WEST BELMONT AVENUE • CHICAGO 18, ILLINOIS

▼ BREVITY—Identify by IEN-10192 if you write the maker ▼

# PRENTISS

"BULL Dog"

MACHINISTS' VISES

Backed by 80 years of time proven acceptance by industry.

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Hundreds of plants have used them and still do.

•

Insist on PRENTISS for that "EXTRA" vise service.

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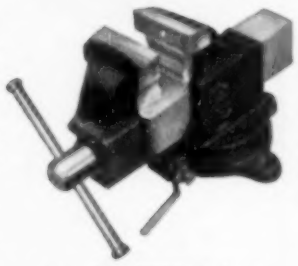
Your industrial Distributor can furnish.



*Buy PRENTISS Today*

**PRENTISS VISE DIVISION**
OF THE CHARLES PARKER CO. MERIDEN, CONN.

▼ BREVITY—Identify by IEN-10193 if you write the maker ▼

# Which of these Machines will Save You Money?

**These factory-assembled units of Pangborn Blast Cleaning and Dust Control machines are especially designed to earn extra profits where special equipment is not required.**

**BLAST CLEANING CABINET**
cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Ideal unit for producing clean, smooth surface on pieces up to 60" x 36".

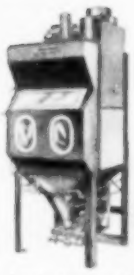
**BLAST CLEANING CABINETS $290. and UP**

**BLAST CLEANING MACHINE**
for maintenance and many other uses including the removal of rust, dirt, scale, etc. Economically cleans large objects such as tanks, bridges, structural work preparatory to painting. 6 sizes, stationary or portable.

**BLAST CLEANING MACHINES $155. and UP**

**UNIT DUST COLLECTOR**
traps dust at its source, minimizes machine breakdowns, reduces your maintenance costs. Solves many grinding and polishing nuisances and material losses.

**UNIT DUST COLLECTORS $260. and UP**



**HYDRO-FINISH CABINET**
uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for finishing. Holds tolerances to .0001".

**HYDRO-FINISH CABINETS $1295. and UP**

*Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment*

**MAIL COUPON TODAY!**

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me further information on—
☐ BLAST CLEANING CABINETS ☐ UNIT DUST COLLECTORS
☐ BLAST CLEANING MACHINES ☐ HYDRO-FINISH CABINETS
I am interested in the possibility of using one of these machines for
.....
NAME .....
COMPANY .....
ADDRESS .....
CITY ..... STATE .....

**Pangborn**

▼ BREVITY—Identify by IEN-10195 if you write the maker ▼

## FEEDING . . Motor driven hopper to orient and feed cylindrical work

Source: KRAUS DESIGN INC.
948 Exchange St., Rochester 8, N. Y.

**Four sizes** have been added to the company's line of rotary type motor driven hopper feeds to handle cylindrical work pieces of specified section. The unit employs a rotating disc forming one face of the hopper. The disc is fitted with pins that move through the work in the hopper to permit passage into the discharge chute of those pieces that are correctly oriented. Movement of the pins agitates the work so the pieces continuously are changing position and numbers will be presented correctly.

**The assembly** is made of cast aluminum in 8, 12, 16 and 24-in. diameters. Each includes a housing-enclosed motor and a geared reducer to provide desired speed at the rotating disc. The company is prepared to quote on receipt of samples and requirements for orientation and delivery rate.

▼ BREVITY—Identify by IEN-10196 if you write the maker ▼

## BUILDING . . Roof coating material to spray in new construction and repair

Source: R. M. HOLLINGSHEAD CORP.
838-42 Cooper St., Camden 2, N. J.

**Company trains user's operators for application**

**New application** has been developed for the company's vinyl-plastic film-producing liquid and associated materials in construction of new roof coatings and in repair of old ones. The material itself is trade named Cocoon. It was initially developed to enclose and seal war equipment prior to placing it in "moth-ball" storage. Application can be made over old roofs after cleaning the surface. Previously-placed roofing materials can be left as they are.

**A prime coat**, known as Flex Seal Clear, is sprayed first with coverage at about 300 sq. ft. per gal. to form a good adhesive base. The Cocoon is sprayed on it using about 3 gal. per hundred square feet. Mastic containing gilsonite asphalt is the third coat with coverage at 6 gal. per hundred square feet. The final coat is gilsonite vehicle with aluminum paste. Weight of the completed roof coating is negligible.

▼ BREVITY—Identify by IEN-10197 if you write the maker ▼

## LIGHTING . . Portable floodlights, hand truck and engine driven generator

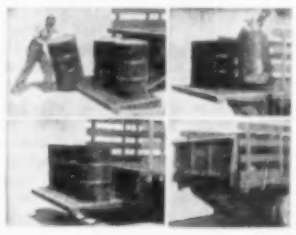
Source: EMPIRE CORP.
708-12 N. Plankinton Ave., Milwaukee 3, Wis.

**Illumination** is provided in the event of emergency by this new engine-driven equipment. The lights can be employed on construction work and in locations where illumination is required for a time and regular light lines are not warranted. There are three floodlight fixtures, two on stands and the third on a trunnion mounting on the hand truck.

▼ BREVITY—Identify by IEN-10198 if you write the maker ▼

## ELEVATOR . . Hydraulic lift gate for truck, lifts or lowers 3,000 lb.

Source: PERFECTION STEEL BODY CO.
300 S. East St., Galion, Ohio



**Cubey Hydra-Power end gate** mounts at the rear of a truck to handle loads into and out of the truck from ground level. The unit also serves as the closing gate when the truck has been loaded by hinging up into vertical position and locking across the rear of the truck body. Operation is from the truck's power take-off to drive a hydraulic pump. Control centers at a valve which can be operated by foot or hand from the ground or from the platform. Control can be extended into the truck cab to specification.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . .* *See Page 50*

▼ BREVITY—Identify by IEN-10199 if you write the maker ▼

Temperature regulation to plus or minus one degree F. is the unheard-of accuracy obtainable with the self-operated Farris Stacon Temperature Regulator.*

Two design factors are responsible:

1. Liquid in bulb reaches to vapor in power bellows . . . steam does 99 per cent of the work . . . without appreciable time lag.
2. Full balancing bellows has the effect of double seated operation with single seated valve . . . eliminates spring counterpoise and oil packing glands . . . provides free floating valve disc . . . prevents response to variations in steam temperature.

Stacon Regulators are compact, trouble-free, dirt-proof. They operate consistently in the worst possible surroundings and require no maintenance.

You'll want to learn more about the most sensitive, accurate, economical temperature regulator on the market. Write for Stacon Bulletin 50-1000.

**farris stacon** CORPORATION
632 COMMERCIAL AVE. PALISADES PARK, N. J.

▼ BREVITY—Identify by IEN-10200 if you write the maker ▼

*most powerful tool of its weight*

The CP Super Cycle Grinder packs more power for its weight than any other portable tool. Works at full speed under all loads. Removes more metal at less cost than other grinders. Low maintenance; no brushes to replace, no armature to burn out, because motor is of squirrel cage induction type. Operates on 360 cycle, 3-phase, 220 volt current.

Write for Catalog 905-2.

**CHICAGO PNEUMATIC TOOL COMPANY**
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

▼ BREVITY—Identify by IEN-10201 if you write the maker ▼

# you can cut carrying costs!

This new booklet on Conveyor Chains and Attachments is packed with photographs, sketches and descriptions of how chain conveyors can cut your materials handling costs. Designed as a "thought provoker" for anyone concerned with materials movement, it covers all major types of chain conveyors, handling everything from bulk material and drums to tote boxes.

We feel sure you'll find this book both interesting and valuable. Just mail the coupon.

**CHAIN BELT REX COMPANY**

M-131

Chain Belt Company
1679 W. Bruce Street
Milwaukee 4, Wis.

Gentlemen: Please send me Bulletin No. 15.

Name .....
Company ..... Dept. .....
Address .....
City ..... State .....

▼ BREVITY—Identify by IEN-10202 if you write the maker ▼


EASY, ACCURATE
**surface heating**
with G-E Calrod* Heaters

Put surface heat *where* you want it, *when* you want it, and in the *amount* you want it with G-E Calrod heaters. Calrod heaters are available for clamping on surfaces, inserting into drilled holes, casting into metal, locating in grooves, wrapping around cylinders and spacing away from surfaces. And they come in a wide enough range of sizes, ratings, and sheath materials to meet almost every conceivable heating requirement.

FOR NEW FREE CATALOG, GEC-1005A and application bulletin GEA-5097, "Heating Surfaces," write on your letterhead to: *Section 720-17, Apparatus Dept. General Electric Co., Schenectady 5, New York.*

*Reg. U. S. Pat. Off.

GENERAL ELECTRIC 720-17


▼ BREVITY—Identify by IEN-10203 if you write the maker ▼


**You'll find these products in SAFE HANDS!**

**HANDEEZ**

LIFTS shop grime from the pores gently but *thoroughly*—a *must* where hands come in contact with lubricating oils. Contains a sterilized vegetable emollient which acts as an absorbent. Non-irritating action keeps skin free of cracks where dermatitis gets its start. In powder form—bulks BIG at a very low cost.

**VOLAX**

Extra-heavy-duty hand cleaner. Removes ground-in grime, printing ink, stubborn dirt. Contains friable volcanic ash.

DISPENSING EQUIPMENT AVAILABLE
See your DOLGE SERVICE MAN or write for literature.

*dependable* DOLGE
WESTPORT, CONNECTICUT


▼ BREVITY—Identify by IEN-10204 if you write the maker ▼

Yes Sir! You can do it with a du Mont *Minute Man* Keyway Broach and Bushing costing only $8.25 and designed for quick, hand cutting of 100 or more keyways in gears, cutters, hubs, collars, couplings, etc.

For info on handy *Minute Man* Kits for keyways from 1/16" to ¾" wide in bores from ¼" to 3" by 1/16" steps, USE THIS COUPON

The du MONT CORPORATION
Greenfield, Mass.
Please mail me Descriptive Folder and Price List N
Name
Company
Address


▼ BREVITY—Identify by IEN-10205 if you write the maker ▼

## CONTROL . . Photoelectric unit passes predetermined amount of liquid

Source: REPUBLIC FLOW METERS CO.
2244 Diversey Parkway, Chicago 47, Ill.



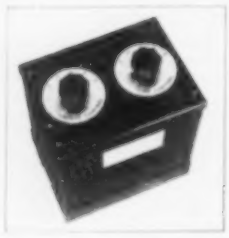

**Batch Integrator** designates new assembly of the company's electric flowmeter mechanism: a wall-hour type of continuous electric integrator with its shaft carrying a multiface mirror, a light source and photoelectric cell, an amplifier and a reset type of predetermining counter with circuit contacts.

**Closing** a pump circuit starts flow through the meter which then supplies a proportional current to the integrator causing its shaft to rotate. The mirror reflects each rotation between the light source and the photoelectric cell to actuate the counter. The counter opens the motor circuit and resets itself for the next cycle as soon as the preset amount of flow has passed the meter.

▼ BREVITY—Identify by IEN-10206 if you write the maker ▼

## TRANSFORMER . . Tap changing design controls voltage in furnace power line

Source: HEVI DUTY ELECTRIC CO.
4210-14 W. Highland Ave., Milwaukee 1, Wis.



**Power ratings** are 500, 1,500 and 3,000 watts in three sizes of this new tap-changing transformer. Operation is on 110 or 220 volt ac, as specified. Voltage range in tap-changing adjustment is 45 to 115 volts or 90 to 230 volts in 36 equal steps. The assembly is available with controls located on the top or face for bench or wall mounting. Dimensions are 6 by 9 by 10 in. for these three transformer sizes.

**A fourth unit** with rating at 5,000 watts is available for use in a 220 volt ac circuit with 72 steps of adjustment between 90 and 230 volts. It measures 9 by 12½ by 14 inches.

▼ BREVITY—Identify by IEN-10207 if you write the maker ▼

## DRIVE . . Planetary speed reducer assembled in V-belt sheave, rates 3 hp.

Source: HART REDUCTION PULLEY CO.
2402-6 W. Clybourn St., Milwaukee 3, Wis.

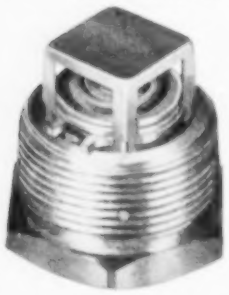
**Geared reduction** between 4.7 and 365 to 1 can be specified in this new sheave-enclosed planetary speed reducer. The assembly employs a 3-belt sheave to take A-type belts. Outside diameter is 12¾ inches. Overall length including the required torque arm is 8⅝ inches.

**The assembly** is sealed design with gears operating in oil and shafts mounted in ball bearings.

▼ BREVITY—Identify by IEN-10208 if you write the maker ▼

## VALVE . . Spring backed check assembles in pipe fitting, ⅜ to 6 in.

Source: DURABLA MFG. CO.
112-16 Liberty St., New York 6, N. Y.

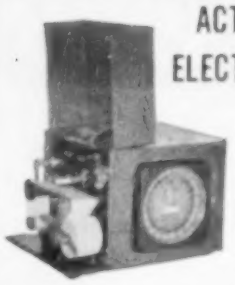


**The company** announces availability of its pipe-line check valve following a ten-year period of test service. The valve threads into any pipe fitting and a contiguous pipe threads into it, one size smaller than the exterior threads on the valve body. Sizes range from ⅜ to 6 in. with pressure rating at 125 lb. for saturated steam and 300 lb. for water. The valve body carries a lapped seat on which the valve disc rides. A cage holds a disc spring in place. A snap ring maintains the assembly and permits access to the disc and seat.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ BREVITY—Identify by IEN-10209 if you write the maker ▼


**RECORDING MECHANICAL COUNTER ACTUATED BY AN ELECTRICAL IMPULSE**



it operates on the output of a scaler, photo tube, or other electrical unit...permanently records counts on a 2¼" tape . . . automatically resets to zero.

*In Radioactive Research* it saves precious time by eliminating many hours of manual labor, resulting in greater economy and efficiency.

*In Industry* it maintains a permanent record automatically, recording production and time each hour.

*Write for illustrated circular S C 12*

STREETER-AMET COMPANY
Automatic Weight Recorders and Scales
High Speed Counters—Since 1888
4101 Ravenswood Avenue Chicago 13, Illinois


▼ BREVITY—Identify by IEN-10210 if you write the maker ▼


SPRA-CON
**WASHERS**

MULTI-STAGE, POWER SPRAY CONVEYORIZED TYPES.

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CAN BE FURNISHED AS A SINGLE UNIT, OR A COMPLETE SYSTEM, WITH NECESSARY CONVEYOR, OVENS AND PAINT PROCESS.

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THE SPRA-CON COMPANY
1404 N. WESTERN AVENUE
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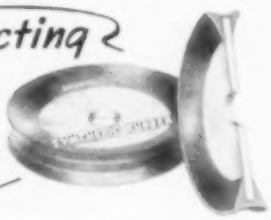
▼ BREVITY—Identify by IEN-10211 if you write the maker ▼


*Double Acting One-Piece PISTON*



ELIMINATES MULTI-CONSTRUCTION (A)
PROVIDES QUICK AND EASY ASSEMBLY (B)

Here's real Saving and Simplification! A complete one piece, Double Acting PISTON — so skillfully designed and constructed that 1 part (B) actually replaces 5 to as high as 7 parts, ordinarily used in conventional assembly (A).

This radically new ALLIS Piston is a unit piston plate and packing. Cup Members are constructed of highly resistant synthetic rubber, molded integrally to a solid metal plate. Time Tested and Proven — Highly Efficient with constant Lip Sealing action. Cannot be installed incorrectly.

Available in all standard cylinder sizes,—for all Hydraulic and Pneumatic mediums such as oil, water, air, etc. Now being used by machinery manufacturers as standard or original equipment. Write for details today.

We produce MOLDED MECHANICAL RUBBER PRODUCTS . . . Bellows, Boots, Packings, Seals, Diaphragms, Dampeners, etc. Each part is Laboratory Controlled and Formulated to meet your operational requirements.

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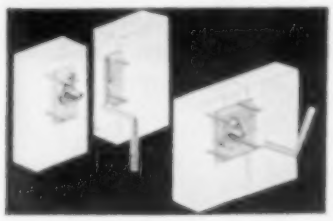
ALLIS RUBBER CORPORATION
130 N. Green Street Chicago 7, Illinois

▼ BREVITY—Identify by IEN-10212 if you write the maker ▼



Serrated, tapered cam engages flat-sided pan als tightly together when turned by any hand tool

## How to fasten panels securely —and take them apart easily

Roto-Locks fasten demountable panels quickly and securely —at right angles or butt joint. Just turn the tapered cam to lock, turn again to unlock. Check these other Roto-Lock features, too:

1. Roto-Lock carries *both* heavy shear and tension loads.
2. Exerts enough pressure to form an air- and water-tight seal when gaskets are used.
3. Fastens in any mis-aligned or semi-open position.
4. Recesses *completely* into panels.
5. Has no springs or delicate mechanical parts.

Portable shelters, air freight and cold storage shipping containers, walk-in coolers, demountable furniture and scaffolding are a few of the many products using Roto-Locks. Write today for catalog.

**SIMMONS FASTENERS**

SPRING-LOCK • QUICK-LOCK • ROTO-LOCK

Simmons Fastener Corp., 1758 N. Broadway, Albany 1, N. Y.

▼ BREVITY—Identify by IEN-10213 if you write the maker ▼

*Electricoil*

*Guide Pin Covers*

Automatic Protection for Man & Machine

- Interchangeable
- Long Life
- Will not bend or dent
- Neat appearance
- Stock sizes
- Self Aligning
- Fits front or back pins
- Automatic height adjustment

JUST SNAP INTO PLACE

• No tools required • No installation cost • No maintenance cost • No holes to drill • No threads to tap • No moving parts • No engineering required • No layout needed • No adjustments • No work interference

*Protects Pins & Bushings From Dirt & Scale*
*Prevents Injuries to Die Setters & Operators*
Protects Pins from Misplaced Work, Nicks or Scratches

**CENTRAL SAFETY EQUIPMENT CO.**

2204 E. Huntingdon Street Philadelphia 25, Pa.

▼ BREVITY—Identify by IEN-10214 if you write the maker ▼

*want more storage space?*

...use **BARRETT** PORTABLE ELEVATORS

Make full use of wasted air space! Have more floor area that for production work. Save on heat, light and maintenance too. Thisk kind of storage can often double or treble storage capacity.

Model "S" Hundred ... capacity 500 lbs. ... 6'6" overall height ... 3'6" lifting height ... 24" x 24" platform ... 9½" lowered height ... 24" wide caster tires ... push handle ... floor lock ... efficient crank-up crank-down mechanism. Ask for Bulletin 6951.

$175.00

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Model "S" Hundred

BARRETT-CRAVENS CO.
4641 S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong Ltd. Toronto, Canada

**BARRETT**

One Man Does More Than 2 or 4 ... with a Barrett

▼ BREVITY—Identify by IEN-10215 if you write the maker ▼

## VALVE . . Safety trip design closes on loss of pressure, current

Source: ECLIPSE FUEL ENGINEERING CO.
724 S. Main St., Rockford, Ill.

**Gas supply** to combustion equipment is shut off, by the action of this new design of the company's Series LT valve, on failure in gas pressure, air pressure or electric current essential to safe operation. The valve as shown is equipped with two diaphragms for connection to air and gas supplies so failure in either will result in immediate closing. Either diaphragm can be removed and its connection blanked or replaced by a solenoid for electrical failure protection. Sizes are 1 to 4 inches. Face-to-face dimension is 6 to 12 inches.

**Two pins**, 1 and 2, are moved forward by united pressure in the diaphragms 7 and 8 when the reset lever 3 is turned in clockwise direction to lower the cage 5 carrying the pins until they can slide into the recess in the stem spool 6. When pressure is where it should be in both air and gas control lines, the pressure on the pins will balance and the spool will remain centered in its home fit on the stem. Then the lever can be reversed to raise the disc from its seat against closing pressure of the spring backing the disc. Pressure failure on either side results in reverse between the spool and the pins and the valve closes to shut off gas supply.

▼ BREVITY—Identify by IEN-10216 if you write the maker ▼

## GAGE . . Dial indicator, holder and shock absorbing indicator anvil

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

**Last Word** No. 711-E trade names new universal assembly of dial indicator with a friction swivel holder, shank-mounting shank, toolpost shank and with provision in the indicator body to reverse the action by moving a small switch lever. The indicator itself has an adjustable 1½ in. dial and an overall range of .400 inch. Readings are to .015 in. one each side of zero. A No. 16 contact point with a .320 in. point is standard.

**Also available** in the company's line of indicating equipment is a new shock absorbing anvil with a threaded shank to replace the solid point on any AGD standard dial indicator. The unit carries a spring that permits the point to retract on shock loading before the indicator can be harmed. On release of overload the spring returns the point to normal position.

▼ BREVITY—Identify by IEN-10217 if you write the maker ▼

## METER . . Electronic amplifier for low level dc. stabilized readings

Source: LEEDS & NORTHRUP CO.
4934 Stenton Ave., Philadelphia 44, Pa.

**New instrument** applies as a direct-reading microvoltmeter or micro-microammeter, as a recorder pre-amplifier to extend downward the range of the company's Speedomax recorders and as a high-sensitivity, short-period null detector in place of a galvanometer. It is available in voltage or current type with a 4-in. indicating meter carrying its zero point in the center or to the left.

**Basic range** of the voltage amplifier is 0 to 50 or minus 25 to plus 25 microvolts with six multipliers between 1 and 40. The current amplifier ranges 0 to 1,000 or minus 500 to plus 500 micro-microamperes with eleven multipliers between 1 and 2,000. Output at the recorder connector is 10 millivolts at output impedance of 500 ohms. Application can be made with sources to 10,000 ohm resistance on the voltage unit and to 100,000 ohms with the current instrument.

**Folder**, "Stabilized DC Indicating Amplifier," 8 pages, illustrated description covering each application with tabulated specifications of the voltage and current units.



▼ BREVITY—Identify by IEN-10218 if you write the maker ▼

READY MIXED **"ROCK TRED"**

*a NEW floor*
*ready for use*
**IN 12 TO 24 HOURS**

Heavy Duty Rock-Tred offers the fastest, easiest, most economical method of obtaining a new, durable, heavy-load-bearing floor. Floors resurfaced with Spark Proof Rock-Tred can be used for light service 12 to 16 hours after installation, and opened for heaviest traffic in 24 hours. Comes ready-mixed. Anyone can apply it. Extremely durable, no other re-surfacer equals its strength and lasting qualities. Handles any load that can be moved on wheels. Will not crack or crumble. It's the toughest floor on earth. Write for complete details, NOW!

**ROCK-TRED Corporation**
Manufacturers of a Complete Line of Building Maintenance Materials
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▼ BREVITY—Identify by IEN-10219 if you write the maker ▼

*Today it's Roebling!*

IT'S BEEN PROVED in plants everywhere . . . that Roebling Cold Rolled Spring Steel saves preparation time on machines, cuts down machine stoppages and rejects. And this is natural! Every inch of Roebling Spring Steel is identical in gauge, and finish . . . meets your specifications with absolute uniformity.

Roebling Cold Rolled Spring Steel is available annealed, hard rolled untempered, scaleless tempered, tempered and polished, either bright, strawed or blued.

Have your Roebling Field Man help you choose the cold rolled spring steel—or round, flat or shaped wire—that will improve your product and your production. John A. Roebling's Sons Company, Trenton 2, New Jersey.

**ROEBLING**

A CENTURY OF CONFIDENCE

▼ BREVITY—Identify by IEN-10220 if you write the maker ▼

HALLOWELL

*Steel Collars*

HALLOWELL Solid Steel Collars, functionally proportioned throughout . . . precision-machined so faces run perfectly true . . . are beautifully polished all over . . . yet they cost less than common cast iron collars. 2" bore and smaller are made from Solid Bar Stock. To make sure the collar won't shift on the shaft, they are fitted with the famous UNBRAKO Knurled Point Self-Locking Socket Set Screw—the set screw that won't shake loose when once tightened. HALLOWELL . . . is "boy world" in shaft collars . . . available in a full range of sizes for

IMMEDIATE DELIVERY

Write for name and address of your nearest HALLOWELL and UNBRAKO industrial Distributors.

OVER 47 YEARS IN BUSINESS

"See us at Booth 2434, Convention of National Metal Congress and Exposition, Chicago, Oct. 23 to 27"

**SPS** STANDARD PRESSED STEEL CO.
JENKINTOWN 16, PENNSYLVANIA

▼ BREVITY—Identify by IEN - 10221 if you write the maker ▼


*You can do a lot*

*with a little* **GOLD SEAL TAPE**

You save time and money with Gold Seal Tape — there's no waste, full footage is guaranteed. Lasting "tack" from end to end — makes tighter, longer-lasting joints. Buy it, try it! In 10-roll containers, or in single rolls. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

JENKINS Gold Seal Tape FRICTION RUBBER

MADE BY JENKINS BROS. . . . MAKERS OF FAMOUS JENKINS VALVES


▼ BREVITY—Identify by IEN - 10222 if you write the maker ▼


SPECIFY

**THERMALLOY***

heat and abrasion resistant castings

**CHEMALLOY***

corrosion resistant castings

Muffles • Retorts • Pots • Baskets
Trays • Fixtures • Furnace Parts

Heat, Abrasion and Corrosion Resistant Castings of all types

*Reg. U. S. Pat. Off.

AMERICAN Brake Shoe COMPANY — ELECTRO-ALLOYS DIVISION ELYRIA, OHIO


▼ BREVITY—Identify by IEN - 10223 if you write the maker ▼

Outlast Ordinary Faucet Washers 6 to 1

You can stop costly faucet leaks that boost water, fuel and labor costs and ruin expensive fixtures. Insist on pat'd "EASY-TITE" Faucet Washers—made of DUPONT NEOPRENE to withstand abrasion and extreme high temperatures (upwards of 300° F). Fabric reinforced like a tire, "EASY-TITES" can't split or mush out of shape. Outlasting ordinary washers 6-to-1, "EASY-TITES" have cut faucet repairs to a minimum and brought maintenance costs sharply down in plants, hospitals, schools, hotels and institutions everywhere.

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Lists over 2,500 'SEXAUER' Triple Wear Replacement Parts and pat'd Precision Tools as advertised in the SATURDAY EVENING POST. Standard with leading maintenance engineers everywhere. Send a postcard for your free copy TODAY.

J. A. SEXAUER MFG. CO., INC.
2503-05 Third Ave., Dept. K-100, New York 51, N. Y.

SEXAUER
World's leading specialists in plumbing and heating maintenance.


▼ BREVITY—Identify by IEN - 10224 if you write the maker ▼

## VALVE . . Poppet type check, 1/8 to 1 in., sealed by rubber O-ring

Source: JAMES-POND-CLARK
1245-49 E. Green St., Pasadena 5, Calif.

Circle-Seal trade names new check valve now available from stock in pipe sizes from 1/8 to 1 in. in which the sealing element is a rubber O-ring rather than the customary seat. The poppet element carries this ring, moves it into contact with the sealing lip in the poppet guide when the poppet bottoms on a shoulder in the guide bore. Line pressure in closed position compresses the gasket for a tight fit.

Two types rate to 3,000 and to 1 lb. in maximum pressure and will maintain operation in a temperature range from minus 65 to plus 280 deg. F. Units for temperature to 500 deg. F. can be specified. Opening differential is 1 to 5 lb. on the standard unit, 4 to 8 in. of water on the low-pressure assembly. In both types the poppet will close prior to return flow.

▼ BREVITY—Identify by IEN - 10225 if you write the maker ▼

## GRINDING . . Surface disc machine drives 18 in. disc, mounts on bench

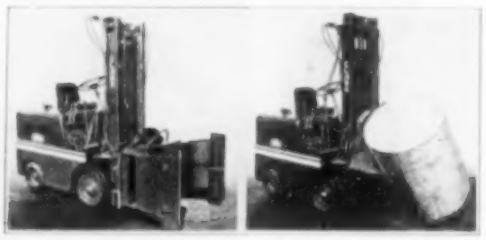
Source: CHARLES H. BESLY & CO.
116-20 N. Clinton St., Chicago 6, Ill.

The 18-in. disc in this new machine is mounted on a Fairbanks-Morse Axial-Gap motor installed vertically in the machine housing. The motor rates 5 hp., operates at 1,100 rpm. on 3-phase 60-cycle ac. A skirt surrounds the disc and an overarm supports a dresser to true the grinding surface. Weight is 575 pounds. The machine is known as No. 318-18. Overall dimensions of the assembly are 28½ by 31 inches.

▼ BREVITY—Identify by IEN - 10226 if you write the maker ▼

## TRUCK . . Rotating roll attachment for company's 1½ to 2½ ton trucks

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.



Hydraulic clamping and rotation are combined in this new fork-lift trucks in ratings from 1½ to 2½ ton. Rubber-covered clamping arms are adjustable in three positions for roll handling attachment for any of the company's Carloader varying load diameter. Rotation is through 90 degrees.

▼ BREVITY—Identify by IEN - 10227 if you write the maker ▼

## TESTING . . Electronic instrument selects band width for noise, vibration

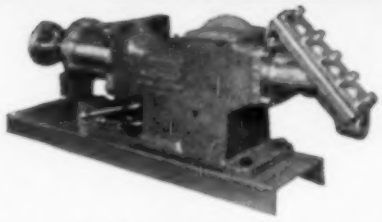
Source: SPENCER-KENNEDY LABORATORIES INC.
184-88 Massachusetts Ave., Cambridge 39, Mass.

Series 300 variable electronic filter designates new electronic instrument for use with a sound level meter for measurement of noise or vibration in a desired band width. This permits analysis of the noise beyond total noise readings for which the meter alone is limited. Such measurements can then be employed as checks on operation of the equipment under test. The instrument provides continuously variable cutoff in the frequency range for 20 cycles per sec. to 200 kilocycles.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN - 10228 if you write the maker ▼


MILTON Roy PUMPS



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CONTROLLED VOLUME CHEMICAL PUMPS

These are positive displacement, precision metering units, with the exclusive Milton Roy double-ball check liquid ends, powered by simple air cylinders. Plunger stroke length (capacity) is adjustable while operating by means of screw and hand-wheel. Capacities from 0.4 to 405 GPH. Pressures to 20,000 psi. Plunger diameters from 3/16" to 5½". For controlled volume pumping . . . practically all chemicals, slurries, solids in suspension, etc. Sanitary liquid ends are available. Ideal units for automatic feed systems. Write for Bulletin 450.

MILTON Roy COMPANY
1302 E. MERMAID AVE., CHESTNUT HILL, PHILA. 18, PA.


▼ BREVITY—Identify by IEN - 10229 if you write the maker ▼


**Flexible Plastic Tubing**

Alanol flexible plastic tubing is tough, transparent, chemically inert. You can use it for alcohol, beverages, corrosive chemicals, food products, oils, water, and sterilize it with steam. It is made of Vinyl Chloride Compound, is stocked in 37 sizes from .120 to 1 inch i.d., .170 to 1⅜ inches o.d. Temperature range is minus 35 to plus 190 degrees F. List price per 100 feet is $3.78 to $141.02. (Subject to quantity discounts.)

Ask for free 2-inch sample of the tubing and a copy of our technical data sheet which includes a table of corrosion resistance on 48 chemicals.

**Couse & Bolten Co.**
40-46 Lafayette Street Newark 2, N. J.


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*Swiss American*

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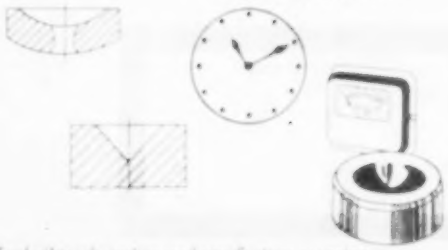
Individually Set to Order—Mass Produced for Every Industrial Requirement

• Sapphire and Ruby

The precise tolerances — the high shock resistance — the low friction coefficient needed for —

Instruments — Clocks — Meters — Measuring Devices



*For further information send specifications or contact—*

**SWISS AMERICAN JEWEL-BEARINGS CO.**
34-18 38th Street • Long Island City 1, N. Y.

*One of the largest factories of its kind in the world*

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## ...cut SNOW REMOVAL COSTS!

Cut snow removal time with these sturdily built, rotary snow throwers that whirl the snow away, leave no built-up banks, throw the snow in any direction, up to 50 feet away — three models available: 7.2 H.P., 4.6 H.P. and 3 H.P. Thoroughly winter-proven in use by hundreds of users from Coast to Coast.

SEND COUPON FOR DETAILS

THE MAXIM SILENCER COMPANY
71 Homestead Ave., Hartford 1, Connecticut

Name

Address

▼ BREVITY—Identify by IEN - 10232 if you write the maker ▼

## ARE YOU LOOKING FOR BETTER LOCKS AT LOWER COST?

The Eagle Ball Tumbler Lock is the answer for exceptional security at lower cost offering these exclusive features:

- Double grooved key
- 6 to 9 tumblers positively positioned by key
- Tumbler controls cut in sides of key
- Exceptionally large number of key changes
- Carefully guarded key codes
- Ordinary duplication of keys not possible

For your security problems, Eagle can give you a practical answer to fit a reduced cost program. We invite your security problems.

The EAGLE LOCK Company
Terryville, Connecticut

America's First Lockmakers...Since 1833

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## Hardness Readings in 2 seconds!

Webster PORTABLE Hardness Testers FOR NON-FERROUS METALS

MODEL B. Direct hardness readings on all aluminum alloys.

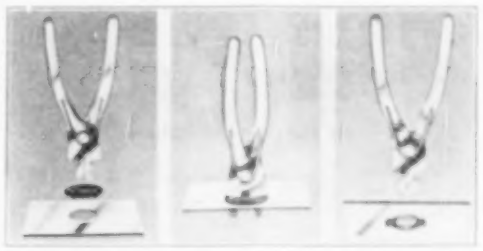
MODEL B-75 Direct hardness readings on copper, brass, etc.

WEBSTER INSTRUMENT CO.
Dept. I, 11856 Mississippi Ave. Los Angeles 25, Calif.

▼ BREVITY—Identify by IEN - 10234 if you write the maker ▼

## INSULATING . . Rubber covered grommet is clinched in place with plier tool

Source: AUTOMOTIVE RUBBER CO.
8603 Epworth Blvd., Detroit 4, Mich.



**Sta-Put** Series 3120 is a new rubber-covered metal grommet that is made with two ears for insertion through an opening in a sheet of metal. A plier tool is then applied to bend the ears outward on the reverse face of the sheet to hold the unit in position.

**The grommet** is made of .054 to .006 in. cold-rolled steel and is insulated with 1.732 in. of neoprene. It is made in six inside diameters between 3/8 and 1 inch. Outside diameter is 5/8 to 1 3/8 inches. Application is in a hole measuring 3/8 to 1 1/8 inches. Sheet thickness is under 1/8 inch.

▼ BREVITY—Identify by IEN - 10235 if you write the maker ▼

## DRILLING . . Fourteen inch machine, four speeds, rates 1/2 in. in steel

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.

**Ball bearing** spindle, spring-backed motor base, solid-bored rather than split head and table-to-column fits, adjustable quill-retracting spring characterize the construction of this new Economy Model of the company's 14-in. drilling machine. The spindle is fitted with a No. 2 Morse taper. Drive calls for a 1/4 or 1/3 hp. motor operating at 1,725 rpm.

**The four speeds** range between 740 and 4,070 rpm. Spindle travel is to 4 inches.

▼ BREVITY—Identify by IEN - 10236 if you write the maker ▼

## VALVE . . Four-way pneumatic with pilot actuated port diaphragms

Source: A. SCHRADER'S SON
476 Vanderbilt Ave., Brooklyn 17, N. Y.

**Inlet,** exhaust and two connections for lines to a double-acting cylinder are threaded for 1/4-in. pipe lines in the base of this new valve. The inlet and exhaust are alternately connected through a lever-operated piston-type pilot on the side of the main housing to apply pressure and release it on the outside faces of diaphragms assembled under cover plates on the main valve sides. These diaphragms alternately connect the inlet to one cylinder port and the outlet to the other as they are pressed inward or released by the pilot air.

▼ BREVITY—Identify by IEN - 10237 if you write the maker ▼

## COUNTING . . Photoelectric equipment accumulates count of passing objects

Source: PHOTOSWITCH INC.
75-79 Broadway, Cambridge 42, Mass.

**Operating speed** is to 600 counts per minute for this new Type P2C photoelectric equipment. It includes a light source, the phototube, a control housing and a counter with six digit wheels. The required interconnecting lines and fittings are supplied. Operation is on 110-volt 60-cycle ac. Operating range is to 10 ft. between the photoelectric unit and the light source.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREVITY—Identify by IEN - 10238 if you write the maker ▼

Because they're years ahead in steam generation . . .

## only CYCLOTHERM STEAM GENERATORS

Trade Mark Reg.

HAVE the REAL ANSWER TO GAS and OIL CONSUMPTION

**WHAT IS IT?** It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the cylinderized solid flame with its exclusive cycle-motion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

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Without Obligation Write for Bulletin PI-10

CYCLOTHERM CORPORATION
OSWEGO, N. Y.

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Chicago Mounted Wheels—which were the first to be mounted on steel mandrels—provide a custom-built product to fulfill virtually every kind of grinding and polishing operation. They speed up production — last longer — and cost less . . . with a variety of styles and sizes to cover every type of operation.

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CHICAGO WHEEL & MFG. CO.
Dept. N, 1101 West Monroe Street, Chicago 7, Illinois

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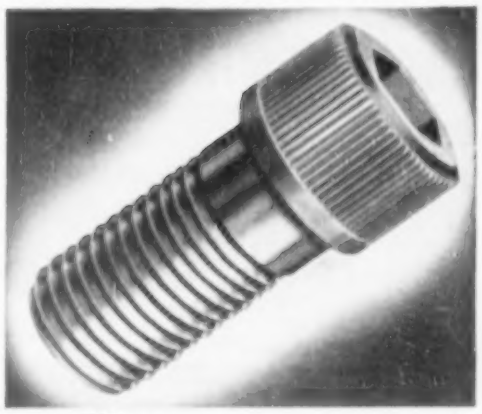

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Efficient engineering requires the full use of all steam generated in the boilers. In non-condensing plants, the exhaust may be utilized for heating, drying, cooking, and other processes. The automatic control of exhaust steam is the function of Davis Back Pressure Valves.

The Davis No. 34 is the original semi-balanced valve with double ports which has been refined and improved to a point where its service sets the standard for comparison. It is temperature compensated to eliminate possibility of sticking and insure proper closing. Standard sizes from 2-inch to 24-inch.

The Davis No. 41 Back Pressure Valve features a patented flexible sealing disc member which makes the valve absolutely drip tight when closed. Where both pressure and vacuum conditions exist, at times, use the Davis No. 42 Back Pressure Valve.

Let Davis help you increase your plant operating efficiency. Engineering recommendations furnished on request. Send for new Catalog A-58.

DAVIS REGULATOR COMPANY, 1515 South Washtenaw, Chicago, Illinois.

DAVIS REGULATOR COMPANY


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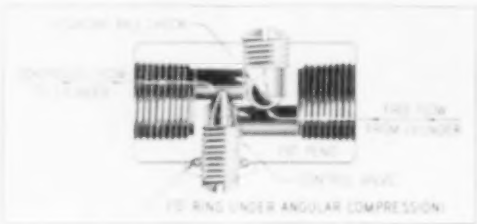
▼ REFER IT—Identify by IEN-10244 if you write the maker ▼

## VALVE . . Check and needle unit to throttle flow in one direction only

Source: PNEU-TROL DEVICES INC.
3120-24 N. California Ave., Chicago 18, Ill.




**Drywall threads** are now standard in the company's combination ball-check and needle valve. The unit employs a body made of hexagon brass or steel bar stock and mounts the ball check so it closes flow in one direction and forces it to move through the adjustable needle opening.

**Five sizes** have ¼ to ⅜ in. pipe connections. Pressure capacities are to 1,000 lb. with a brass body, to 5,000 lb. with steel. Needle and ball with its cup are stainless steel.

▼ REFER IT—Identify by IEN-10245 if you write the maker ▼

## TESTING . . Electronic comparator checks metal composition with standard

Source: DOSCHEK & WALKER INC.
61-65 Crafton Ave., Crafton, Pa.

**Metalsorter** combination test electronic equipment to differentiate between various types of carbon steel, low-alloy steels, stainless steels and non-ferrous conductive alloys by responding to a minute current that results when two samples, metallurgically unlike, are moved in frictional contact with each other. The instrument and its test head weigh about 75 pounds. Unit price with the required accessories is $1,000.

▼ REFER IT—Identify by IEN-10246 if you write the maker ▼

## PROTECTING . . Respirator and tank with control supplies air or oxygen

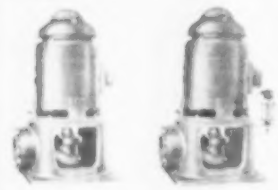
Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.

**Thirty minutes** or more of air or oxygen supply for the wearer of this new Demand Mask respirator equipment enables him to safely enter gas-filled atmospheres or those deficient in oxygen to perform required services. The air or oxygen is contained in a 40 cu. ft. cylinder on an aluminum plate carrier that applies some of the weight on the hips and the balance on the wearer's shoulders. The hose connects through a flexible metal hose to the flow-control valve and from there through a flexible rubber hose to the face mask as shown in the illustration.

▼ REFER IT—Identify by IEN-10247 if you write the maker ▼

## PUMP . . Vertical turbine design for non-corrosive liquids, to 3,000 gpm.

Source: WORTHINGTON PUMP & MACHINERY CORP.
422 Worthington Ave., Harrison, N. J.



**Driving heads** in a new Type-Q line of vertical turbine pumps are shown in the illustration. Unit to the left is for water lubrication in which the exposed drive shaft is mounted in rubber bearings above the pumping bowl assembly. Assembly to the right includes a solenoid-operated lubricant that feeds on through a tube that encloses the drive shaft between motor and pump.

**Bulletins** B-450-B54 and B55, 8 pages, present colored section-through views of the two pump designs with data on construction, specifications, dimensions, drawings.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ REFER IT—Identify by IEN-10248 if you write the maker ▼


ARROW

STAPLING MACHINES SERVE INDUSTRY

T-32 GUN TACKER FOR TRIGGER-RATE-SPEED-TACKING

1001 Uses

Tacks even to solid oak

- Sturdy all steel construction with chrome finish
- Holds 150 staples
- Same machine takes 3/16", 1/4", 5/16" staple sizes. Price $8.50

SAVES TIME — SPEEDS UP PRODUCTION

P-22 HAND STAPLER

"Reaches into hard to get at places" where ordinary staples are inaccessible.

Ideal for tagging, labeling, making boxes and many other uses.

- Sturdy all steel construction with chrome finish
- Holds 150 staples
- Same machine takes 1/4" and 5/16" staple sizes. Price $6.00

Designed for Heavy Duty Industrial Stapling

NATIONALLY ADVERTISED
Priced for Dealer Profits Guaranteed Staple-Repeat Business

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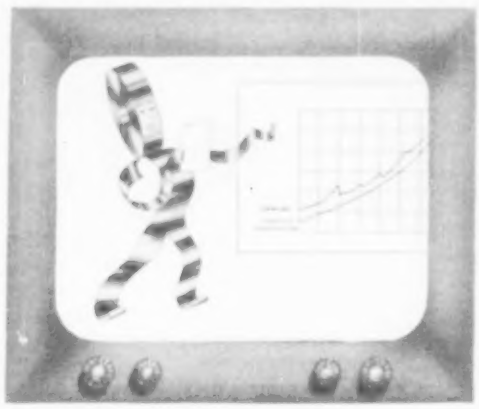
ARROW FASTENER CO., INC.
30-38 Maujer Street Dept. IEN Brooklyn, N. Y.


▼ REFER IT—Identify by IEN-10249 if you write the maker ▼


a current view on THINSTEEL



GREATER DEMAND. Customer requests for CMP Thinsteel in recent months have increased substantially. Sometimes it has meant our inability to supply the full amount desired at the time desired. Of course this sudden surge has meant inconveniences for our friends and customers and we are making every endeavor to improve the situation.

MORE PRODUCTION. There has been no slowdown in Thinsteel production. In fact, there is a steady flow of Thinsteel being produced and shipped every day in more than ever before. To further the increased production of this standard for precision cold rolled strip steel, we are adding another 4-high CMP type cold rolling mill plus increased annealing facilities to the production capacity at Youngstown, and enlarging and adding to our warehouse outlets. In these and other ways we are doing all we can to meet the increasing demand for CMP specialty cold rolled strip steel.

CMP THINSTEEL

PRECISION COLD ROLLED C'M'P STRIP STEEL

the Cold Metal Products co.
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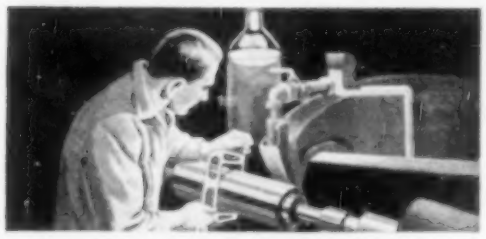
Phone: N. J. Unitrunk 2-2417 N. Y. Cortlandt 7-2886

PRECISION STEEL WAREHOUSE, INC. 4423 W. Fullerton, Chicago • Phone: Cl. Ridge 1-2700

▼ BREVITY—Identify by IEN-10251 if you write the maker ▼



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Wherever accurate measurement means the difference between a perfect part and a costly make-over, you'll profit by the clear concentrated light from Sylvania Birdseye Reflector Lamps.

At your machines, on assembly lines, or above your inspection benches, the bright, steady light from Birdseye lamps helps spot defects and check tolerances.

Remember, it pays to lighten your work with Sylvania Birdseye lamps. For additional information, contact your local Sylvania Lighting Distributor or Sylvania Electric Products Inc., Advertising Dept. L-3010, 1740 Broadway, New York 19, N. Y.

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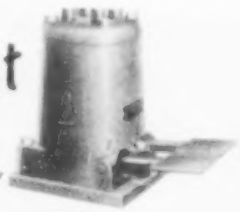
of shears, presses, hammers, etc. *with*



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foot-operated air valves

● Operators have both hands free to handle the work. Valving mechanism has stainless steel body, brass sleeves, and many other refinements that assure long, trouble-free operation, and minimum wear. All operating parts are fully enclosed. Balanced construction prevents creeping. No metal to metal seating. Thousands of satisfied users. ¼" to 1" sizes. For air to 125 p.s.i. *Write for full details today!*

**Quick-As-Wink**
AIR AND HYDRAULIC
**Control Valves**

Mfd. by C. B. HUNT & SON, INC., 1957 E. Pershing St., Salem, Ohio

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*Engelhard meets every*

**THERMOCOUPLE NEED!**

NOBLE METAL THERMOELEMENTS AND THIMBLES

platinum vs. platinum-rhodium—repaired at substantial savings, with credit for reclaimed metal.

BASE METAL THERMOELEMENTS

chromel vs. alumel iron vs. constantan copper vs. constantan.

STANDARD INSULATORS

All types and sizes.

PRIMARY AND SECONDARY PROTECTION TUBES

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**CHARLES ENGELHARD, INC.**

850 PASSAIC AVE., EAST NEWARK, N. J.

▼ BREVITY—Identify by IEN-10254 if you write the maker ▼

**CONVEYING . . Chain mounted plates to move work through a process cycle**

Source: BUDNICK MFG. CO.
1107-11 Michigan St., N. E., Grand Rapids 3, Mich.

**New conveyor** is an assembly of steel plates carried on a link chain in a horizontal plane. The plates ride angle-iron supports on both sides of the chain. The conveyor run can be to the right or left or in a straight line, circle or T-shape.

**The assembly** illustrated is driven by a 1 hp. geared-head motor operating through a worm and gear reducer to the drive sprocket. Overall lengths of the two legs is about 8 and 9 ft. respectively. Chain operation is at 4 fpm. The company is prepared to supply the conveyor to specification.

▼ BREVITY—Identify by IEN-10255 if you write the maker ▼

**HOIST . . Hand chain unit has ½ ton rating and weighs 37 lb.**

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

**Aluminum housing**, heat treated alloy steel chain and sprockets feature the construction of this new ½ ton ball-bearing unit in the company's Load King line of hand chain hoists. Four sizes now in the line provide for a rating range to 2 ton. Standard lift height is 5 feet.

▼ BREVITY—Identify by IEN-10256 if you write the maker ▼

**SAWING . . Portable tool attachment reciprocates blade, will pierce work**

Source: RCS TOOL SALES CORP
22-27 N. Ottawa, Joliet, Ill.

**No starting hole** is required for this new sawing attachment which applies to a ¼ or ⅜ in. electric portable tool, pneumatic tool or flexible shaft unit. The unit is held lightly against the work face and is started. Then it is rocked into upright position to follow a straight or curved outline.

**Operation** is through a ⅝ in. stroke. A blower prevents over-heating and keeps the cut free from of dust. Oilless bronze and felt bearings are employed as all bearing points.

▼ BREVITY—Identify by IEN-10257 if you write the maker ▼

**NIBBLING . . Reciprocating machine for steel to ⅛ in., template control**

Source: SERVICE MACHINE CO.
200 Miller St., Elizabeth 4, N. J.

**New design** of the company's previously developed Semco Nibbler has been speeded up from 210 to 260 strokes per minute. The machine will follow a template-controlled outline to punch a hole of any shape within a 12 by 4½ in. area. The template mounts on two studs at the front of the machine. It can be made of any stiff sheet metal in a blank measuring to 17 by 6 inches.

**Drive** is by a 1 hp. motor. Throat depth is 20 in. with 4¾ in. of clearance. Stroke measures 1¼ inches. Shut height ranges between 2¾ and 5¾ inches. Floor space without extensions is 28 by 55 inches. Height is about 70 inches. Standard equipment includes 2 sets of ⅛ in. round and square punches and die-guard for the machine.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30*

▼ BREVITY—Identify by IEN-10258 if you write the maker ▼

**SEND FOR THIS NEW**

**CATALOG OF WELDING ELECTRODES**

The new Murex catalog of mild steel arc welding electrodes presents complete data on performance, mechanical properties and recommended procedures for the seven mild steel electrodes in the Murex line. You'll find it useful in selecting the right mild steel rod. Write for your copy today!

Or, if your welding operations involve other than mild steel, ask for data on Murex electrodes for welding stainless steel, low alloy steels, bronze or aluminum. There are seventy Murex electrodes from which to choose an electrode exactly suited to any job.

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**METAL & THERMIT CORP.**
100 EAST 42nd ST. NEW YORK 17, N. Y.

NEWARK PHILADELPHIA PITTSBURGH CLEVELAND
E. CHICAGO, IND. MINNEAPOLIS SO. SAN FRANCISCO

▼ BREVITY—Identify by IEN-10259 if you write the maker ▼

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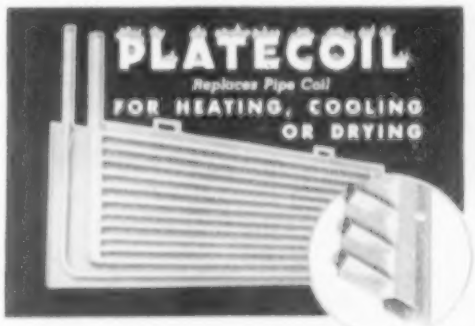
*Replaces Pipe Coil*
FOR HEATING, COOLING OR DRYING



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Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

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A fastener AIN'T, *if — it works loose.*

The "FLEXLOC" IS — *because it won't!*

**FLEXLOC**

ONE-PIECE, ALL-METAL
STOP- and LOCK-NUT

Its "chuck-like," resilient locking segments lock the "FLEXLOC" securely in any position on a threaded member with a controlled, uniform and dependable torque.

Tough applications demonstrate that the "FLEXLOC" positively "won't work loose", yet it can be removed easily with a wrench when desired. Because it is all-metal, temperatures as high as 550°F. hold no terrors for the "FLEXLOC."

The "FLEXLOC" has plenty of tensile . . . can be re-used many times . . . has therefore a long, effective life.

Write for further information and free samples.

*See us at Booth 240, Convention of National Metal Congress and Exposition, Chicago, Oct. 23 to 27.*

**SPS** STANDARD PRESSED STEEL CO.
JENKINTOWN 16, PENNSYLVANIA

▼ BREVITY—Identify by IEN-10261 if you write the maker ▼


SPRAYING SYSTEMS

**Spray Nozzles**

**used everywhere in industry for BETTER SPRAYING at LOWER COST . . .**

Spraying Systems Co. engineered spray nozzles are cutting production costs everywhere in industry . . . by providing better spray nozzle performance and resultant better processing or equipment operation. Get the facts today by writing for General Catalog 22, or Pneumatic Atomizing Catalog 23.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3208 RANDOLPH ST. • BELLWOOD, ILLINOIS
Suburb of Chicago


▼ BREVITY—Identify by IEN-10262 if you write the maker ▼


*Announcing*

**Centr-A-Power**
**SWITCHBOARDS**
**custom-built...**
**pre-engineered...at money-saving prices**

Have us send you Bulletin TEB-3 which tells you how Trumbull's new CENTR-A-POWER can give you highest quality switchboard materials and construction at lowest possible cost.

Assembled from standardized interchangeable units and troughs with a minimum of engineering, CENTR-A-POWER provides a compact and flexible "center" for all your switching.

CENTR-A-POWER conveniences include greater capacity troughs—saving floor space; greater cross-section gutters—making wiring easier; quick-clip attachment of switch and breaker units—saving installation time.

Write now for Bulletin TEB-3 on CENTR-A-POWER. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL (T) ELECTRIC


▼ BREVITY—Identify by IEN-10263 if you write the maker ▼


**REZNOR** Automatic Gas Unit Heater

*Comfort*
WITHOUT FIRING EVERY CHILLY DAY

No ducts, no basement with Reznor unit heaters! Automatic controls give pleasant, hurry-up warmth.

Reznor is world's largest selling unit heater.

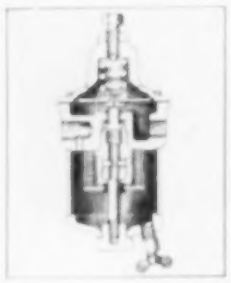
REZNOR MANUFACTURING CO.
10 [illegible]
Please send [illegible]
☐ [illegible] ☐ [illegible] ☐ [illegible]

NAME _____
FIRM _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____


▼ BREVITY—Identify by IEN-10264 if you write the maker ▼

## VALVE . . Pneumatic pressure control combined with filter and drip chamber

Source: CONOFLOW CORP.
2102 Arch St., Philadelphia 3, Pa.



Cono Airpak takes compressed air at its ¼-in. threaded side inlet, passes the air through the wall of a cylindrical filter to the inlet side of the top-mounted pressure regulator. Flow pressure is controlled adjustably by the regulator for delivery through one or all of three ¼-in. threaded outlets on 90-deg. centers around the housing.

**Oil, water,** foreign matter collects on the outside of the filter and drops to a drip chamber at the bottom of the housing for removal at intervals by opening a drain cock at the bottom. The rock is positioned so the unit can be assembled in horizontal or vertical position.

**Three ranges** can be specified with pressure maximum at 30, 60 and 125 pounds. Capacity is 20 to 25 cfm. with 75 lb. on the inlet. The filter element is a Skinner ribbon-type cylinder that can be removed to clean and replace quickly. Main components are forged brass and stainless steel. Greatest diameter of the new assembly is 3 inches.

▼ BREVITY—Identify by IEN-10265 if you write the maker ▼

## TESTING . . Temperature indicators designed to melt at given temperatures

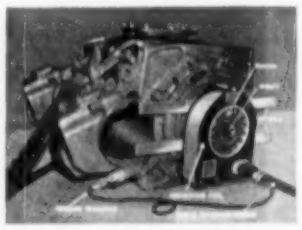
Source: TEMPIL CORP.
132 W. 22nd St., 3rd Floor, New York 11, N. Y.

**Seven** new ratings in 50-deg. steps between 1,650 and 1,950 deg. F. have been added to the company's Tempilaq temperature indicator. The material now is available in 12½-deg. F. steps between 113 and 400 deg. F. and from there in 50 deg. F. steps to the maximum 1,950 deg. F. The material itself is brushed on a surface and allowed to dry. It will remain dry until its rated temperature is reached. There it will melt and run.

▼ BREVITY—Identify by IEN-10266 if you write the maker ▼

## HEATING . . Electric induction coil expands pinion for removal from shaft

Source: NATIONAL ELECTRIC COIL CO.
792-96 Chambers Road, Columbus 16, Ohio



**A steel pinion** that has been press fitted on a machine or motor shaft can be expanded by heating with this new induction coil so it can be removed from the shaft by comparatively light wedging or pulling action. The coil is available in internal bore from 4 to 9⅝ in. in ¼ in. increments, from 10 to 16 in. in diameter in ⅛-in. increments. All have a 5¼ in. face. Overall width is the bore plus 4⅝ inches.

▼ BREVITY—Identify by IEN-10267 if you write the maker ▼

## HANDLING . . Collapsible wire box assembles on company's steel pallet

Source: UNION STEEL PRODUCTS CO.
405 Pine St., Albion, Mich.

**Spiral hinges** made of wire anchor the sides of the company's new Palletainer welded wire box to the pallet base and connect the ends to the sides. The arrangement permits hinging the ends inward and then lowering the sides with the ends so the four parts lie flat on the pallet when the box is not in use. Hooks secure the parts in position.

The pallet permits fork-truck entry from any side. Material filled boxes can be stacked on each other. Load rating of a unit measuring approximately 40 by 48 by 24 in. and made of 8-gage steel wire is 2 ton. Dimensions can be specified.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10268 if you write the maker ▼


*Dissolves or Disperses Up to 20 Times Faster*

**COWLES**
*Ultra-Fast*
**DISSOLVER**

Years of research, practical experience and field test produced this ultra-fast Dissolver with the special-designed impeller that sets up high-velocity interface shear and produces particle scrubbing action between the materials being treated.

The Cowles Dissolver is a soundly engineered machine of rugged stability made from the finest materials, and equipped with nationally known bearings, motors and rubber mountings. Every machine ever turned out is in active operation today.

Write for descriptive folder . . . or ask for a technical representative to call. No obligation.

Designed to your special requirements in dissolving or dispersing—
Liquids in liquids
Solids in liquids
Gases in liquids

The Cowles Company
INCORPORATED
1110 TRACKSIDE, CAYUGA, N. Y.
Associates: Alexander Fleck, Ltd., Ottawa, Ont.
Shartle Bros. Machine Co., Division of Black Clawson Co., Middletown, Ohio


▼ BREVITY—Identify by IEN-10269 if you write the maker ▼


*tempoint* **Dial Thermometer**

**Indicates up to 1000° F. FAST · ACCURATELY!**

This steel sleeve holder, which is regularly furnished, grips the thermometer stem tightly and provides a convenient and secure means for "hooking" the TEMPOINT into any steel pipe without the need of threads. A threaded-back connection is optionally available.

This precision bi-metal dial thermometer has been designed specifically for flue gas and exhaust gas temperature readings. It is equally well suited for all other applications requiring high temperature tests up to 1000° F., over an exceptionally wide range. It is outstanding for its fast response, permanency of calibration, and easy readability.

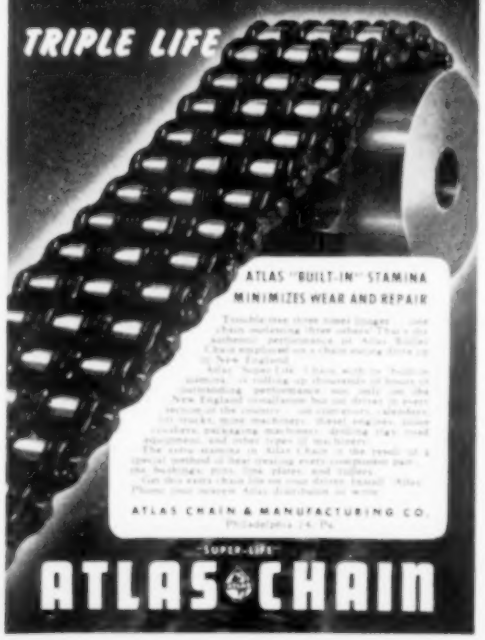
The three-inch diameter face with large numerals and clear graduations together with the red V-shaped pointer make the TEMPOINT exceptionally easy to read, at a distance and in dimly-lit locations. The stem is 5/16" O.D. and is available in 5¼" or 9" free length. Write for descriptive Leaflet 780.

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 Bennett Street · Pittsburgh 8, Pa.

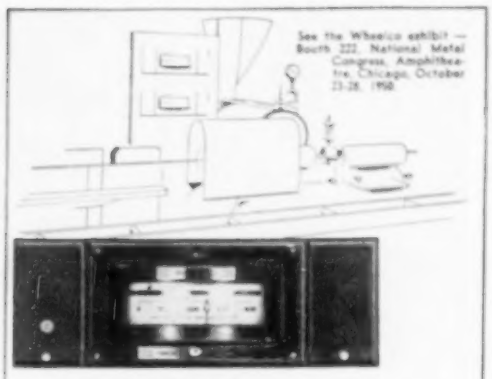

▼ BREVITY—Identify by IEN-10270 if you write the maker ▼


**SAME DRIVE . . . SAME PUNISHMENT**

*TRIPLE LIFE*



▼ BREVITY—Identify by IEN-10271 if you write the maker ▼


HOT PLASTICS *under control*

Get the Wheelco CAPACITROL for the finest finished products. Proportioning control, an integral part of the Capacitrol, automatically coordinates input to heat demand, producing uniform zone temperatures, reduces rejects, prevents overshooting, produces more uniform finished products.

Get Wheelco instrumentality in action.

Write for Bulletin PC-1, Wheelco Instruments Company, 845 W. Harrison Street, Chicago, Illinois.

wheelco *electronic controls*


▼ BREVITY—Identify by IEN-10272 if you write the maker ▼

CENTRAL SCIENTIFIC COMPANY
Scientific Instruments • Laboratory Supplies
Newark • Boston • Chicago • Washington • Detroit • New York • Los Angeles
San Francisco • Santa Clara • Toronto • Montreal • Vancouver


▼ BREVITY—Identify by IEN-10273 if you write the maker ▼


FOR VENTILATION, FUME & DUST CONTROL

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proven suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control.

EXTREMELY EASY TO INSTALL—EFFICIENT AND ECONOMICAL IN USE

SIZES ¼" to 24" dia.

Various Flexaust types, accessories, and other hose types also available:

BLOFLEX — Non-reinforced collapsible hose

PORTOVENT — Ring-reinforced retractable hose

*Write for full descriptive data and prices*

AMERICAN VENTILATING HOSE CO.

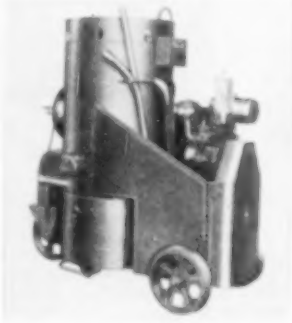
Dept. IE-2, 15 Park Row, New York 7, N. Y.

Plant: Amesbury, Mass.


▼ BREVITY—Identify by IEN-10274 if you write the maker ▼

## CLEANING . . Portable vacuum machine, engine or motor, for two suction lines

Source: U. S. HOFFMAN MACHINERY CORP.
103 Fourth Ave., New York 3, N. Y.



**Hoffro-Vac** 50 is new design with a 6.8-hp. gasoline engine in the company's line of vacuum cleaning equipment. It is available also in improved design with a 5-hp. motor. Engine or motor are belt connected to a multistage centrifugal exhauster that draws air through a bag-type collector in the housing to serve two 50-ft. 1½-in. hose lines or one 2-in. line measuring 75 to 100 ft. in length.

**Dirt** stopped at the collector drops into a 7½-cu. ft. container that is lowered to the floor when it has been filled and is rolled away for emptying. The machine measures 74 by 39 by 74 inches. Vacuum rating is 6½ in. of mercury or 88 in. of water. Equipment includes a crane hook, tool box and hose rack.

▼ BREVITY—Identify by IEN-10275 if you write the maker ▼

## MOTOR CONTROL . . Plug-in center mounts starters, breakers, switches

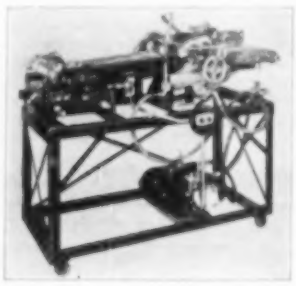
Source: SQUARE D CO.
4039-43 N. Richards St., Milwaukee 12, Wis.

**Pressure stabs** on the rear face of each unit assembly in this new design of the company's electric control center grip around vertical busses in the housing. The units slide on corner guide rails for quick removal and replacement. The design is featured by ability to accommodate six Size 1 or 2 starters in a standard vertical section measuring 20 by 20 by 90 inches. Other standard widths are 24, 28, 32 and 36 in. in the line.

▼ BREVITY—Identify by IEN-10276 if you write the maker ▼

## SPREADING . . Glueing machine feeds paper sheets and spreads the glue

Source: POTDEVIN MACHINE CO.
1285 38th St., Brooklyn 18, N. Y.

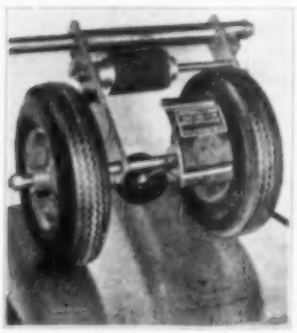


**A pile of sheets** is fanned out on the feed table to the right on this new machine and a foot-operated valve is positioned on the floor near the operator. Each time he depresses the valve plunger he permits vacuum action in a wheel at the feed table to advance one sheet to the tapes that carry it through the glue-spreading roll mechanism at the left-hand end. Holding the valve open results in continuous operation at 90 fpm.

▼ BREVITY—Identify by IEN-10277 if you write the maker ▼

## MARKING . . Traction wheel device rides curved printing plate over work

Source: PANNIER CORP.
101 Pannier Bldg., Pittsburgh 12, Pa.

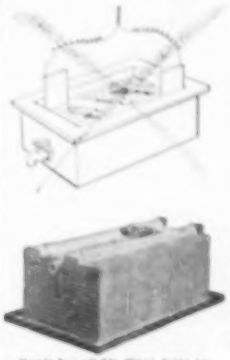


**Two wheels** equipped with pneumatic tires replace the single-wheel design in this marking device, previously described IEN-8206-48. It was designed initially to print identification on strip steel as it is being rolled. It will also print on other flat surfaces while the work is moving at speeds to 2,000 fpm.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10278 if you write the maker ▼


Here's how you can step up Sta-Warm compound melting efficiency




There's no short cut to high productivity in compound melting. Fast, steady low cost heating of any compound or soft metal requires good engineering behind the heating tank or pot employed to do the job.

Evidence of good engineering in Sta-Warm melters is seen in their steady output of uniformly heated compound (some models hold to 1°F. plus or minus) that speeds up compound application. There are no hot or cold spots in Sta-Warm melters because many feet (up to half a mile) of specially processed heating element and heat controls distribute low wattage "black" heat to every part of the inner tank wall.

These features will help you step up compound melting efficiency to keep pace with your stepped-up production schedules.

Write for Product Bulletins featuring the size and type of compound melter you require. No obligation.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST. • RAVENNA, OHIO


▼ BREVITY—Identify by IEN-10279 if you write the maker ▼

It may be your baby!

Another manufacturer takes advantage of the unique properties of VINYLITE Brand Plastic dispersion resins to reap rich profits! Ideal Novelty and Toy Company makes the most of their soft, smooth, flexible qualities to create the life-like "Blessed Event" doll that's making a hit in shops the country over.

But remember, toys are just one of the sales-winning items these versatile materials make possible. They are also used for chemical- and acid-resistant work gloves, for dish drainers that are impervious to alkalies, for hair curlers that are unaffected by hair dressings and for many other things that require extreme resistance to grease, corrosion, water, fading and wear.

Being liquid, they are easy to apply to cloth, metal or paper—or cast into film. They can be dipped or slush molded to almost any desired shape. Easy to handle, they mean economical manufacture. Explore their exciting possibilities, now. Write Dept. JF-3.

Doll by Ideal Novelty & Toy Co., Hollis 7, N. Y.

Vinylite BRAND RESINS

BAKELITE DIVISION

BAKELITE DIVISION
*Union Carbide and Carbon Corporation*
30 East 42nd Street, New York 17, N. Y.

▼ BREVITY—Identify by IEN-10281 if you write the maker ▼

WRITE TODAY!

DICO'S 1950 CATALOG NOW READY!

A UNIQUE CATALOG SIMPLIFYING YOUR WHEEL ENGINEERING PROBLEMS

A MODERN LINE OF INDUSTRIAL RUBBER DIAMETER WHEELS 6" — 18"

DICO CORPORATION
402 S.W. 16th ST., DES MOINES 5, IOWA

▼ BREVITY—Identify by IEN-10282 if you write the maker ▼

*Here's why*
**TRU-LAY PUSH-PULL**
is a valuable aid in machine design

**TRU-LAY Push-Pull is precision-made. Therefore it . . .**

is positive in action as a steel rod yet flexible as wire rope

transmits action over long or short lengths, with few or many bends

will operate while flexing, with practically no lost motion

is made in capacities up to 1000 pounds input

. . . is designed for long life—a machine part—not a flimsy gadget

**MAIL THE COUPON BELOW**

*Use our Detroit Office for bulletin or information about TRU-LAY Push-Pull*

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

Please send me copy of descriptive bulletin DH-87-E-1

Name _____
Company Name _____
Address _____
City _____ Zone ____ State _____

▼ BREVITY—Identify by IEN-10284 if you write the maker ▼

**ELEVATOR . . Cam operated ramp levels platform with a truck floor**

Source: ALLIED STEEL & CONVEYORS INC.
17207-11 Healy Ave., Detroit 12, Mich.

**Motor-driven** cam assembly mounts beneath a structural steel platform faced with non-skid floor plates in this new vertically adjustable ramp. Application is in a shipping platform with the inner edge of the ramp hinged in place. Vertical movement at the outer edge is through 16 in. in standard construction. Ramp dimensions are 6 by 8 ft., 8 by 8 ft., 8 by 12 feet. Load capacity ranges from 5 to 10 ton.

▼ BREVITY—Identify by IEN-10285 if you write the maker ▼

**HEATING . . Electric element, narrow band type to preheat plastics**

Source: WATLOW ELECTRIC MFG. CO.
1318-22 N. 23rd St., St. Louis 6, Mo.

**New Band Heater** has been developed for use in multiple for application in the injection cylinders handling plastics in a molding operation. The band clamps in place, maintains firm surface contact under changing temperatures.

**Single element units** are available for minimum cylinder diameter of 1⅝ inches. Two-element assemblies with the elements in series start at 2½ in. bottle diameter.

▼ BREVITY—Identify by IEN-10286 if you write the maker ▼

**CONTROL . . Electronic instrument for pressure, temperature, flow, load**

Source: WHEELCO INSTRUMENTS CO.
845-9 W. Harrison St., Chicago 7, Ill.

**Potentiotrol** (trade name) a new instrument in the company's electronic line for control action following actuation by any primary element producing an electrical impulse. Examples are thermocouples, radiation detectors, resistance elements. Control point is set by turning a knob that positions the pointer on its indicating scale and also positions a contact on the slide wire where potential is determined for production by the primary element to balance the measuring circuit.

*All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-10287 if you write the maker ▼

Some of the Products Our Machines Now are Finishing

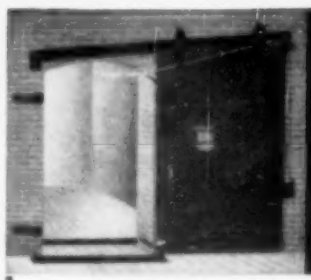
- Screwdrivers, chisels, pliers, saws, wrenches
- Flatware—knives, forks, spoons
- Cigarette cases and lighters, compacts, mirror and brush backs
- Surgical instruments
- Fan blades, flat iron sole plates, photogravure stock

*We have the answer*
TO YOUR SURFACE FINISHING PROBLEM!

For flash removal to mirror finish a Clair Surface Finishing Machine may be the economical solution to your small product polishing problems. From the seven extremely versatile basic designs, a "custom-made" machine may be developed for your particular application. *Write for technical data.*

CLAIR
MANUFACTURING CO., INC.
Specialists Machine Equipment for Glazing and Polishing Operations
OLEAN, N. Y.

▼ BREVITY—Identify by IEN-10288 if you write the maker ▼



INCREASE FIRE PROTECTION—CUT INSURANCE COSTS

COBURN FIRE DOOR HARDWARE

Metal clad or Kalamine doors, installed with Coburn Fire Door Hardware, reduce fire hazards, and lower insurance rates.

Coburn Fire Door Hardware is made to specifications of The National Board of Fire Underwriters and, where necessary, bear the U. L. I. label. Special sets available for single and double incline or level slide doors; single and double swing doors; vertically operated doors. All equipped with automatic self-closing devices. Write for catalog #210 showing full line of hardware, charts showing required headroom, wall space and other information.

Engineering help available without obligation.

**COBURN PRODUCTS**

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Engineering: 56 Sterling Street, Clinton, Massachusetts
Executive Offices: 500 Fifth Avenue, New York 18, New York
Sales Offices: Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • Philadelphia
Pacific Coast — The California Wire Cloth Corporation, Oakland 6, California

▼ BREVITY—Identify by IEN-10289 if you write the maker ▼

**SWISS MFGR. CAN DELIVER PRECISION SMALL SCREW MACHINE PARTS to your SPECIFICATIONS**

197,000,000 machine parts delivered to American customers since 1946

**Expedite Your Production!**
**Speed up Deliveries of SMALL MACHINE PARTS**

**YES, we can deliver!** We at Sphinx-Muller, in Saleure, Switzerland, have a positive answer to your Screw Machine delivery problems. Join the names of U. S. companies using our facilities. They're getting speedy screw-making deliveries, plus that all-important Swiss dividend—super-perfect attention to precision details.

**ONE THOUSAND** Modern Automatic Screw Machines in our Swiss plant are ready, willing, and able to immediately handle your military and civilian requirements—in any quantity. Complete secondary facilities under the same roof.

**Your inquiries**, orders, payment, etc., are handled exactly as they would be with an American company. All quotations are in American dollars, F. O. B. New York City with NO additional costs for duty, shipping, customs clearance, etc.

**Find out today** about this excellent source for precision Screw Machine Products. Send prints or specifications to our Long Island City office, you will receive, promptly, a firm quotation—a price right in line with present U. S. standards.

*Write for detailed bulletin*
SPHINX-AMERICAN CORPORATION
general representative for
SPHINX WORKS MULLER & CO., LTD., Saleure, Switzerland
34-15 36th ST., Long Island City 6, New York • ASTORIA 8-4203

▼ BREVITY—Identify by IEN-10291 if you write the maker ▼

When heavy, unwieldy weldments like these diesel crank cases can be quickly swung into any position so that every weld is made downhand—that's efficient welding.

**Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because these hand and/or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.**

Write for Bulletin WP 24—an illustrated circular detailing the Specific Advantages of C-F Positioners.

**CULLEN-FRIESTEDT CO.**
1310 S. Kilbourn Chicago 23, Ill.

▼ BREVITY—Identify by IEN-10292 if you write the maker ▼

**NEW TYPE CI**

**ADJUSTABLE THERMOSTAT**

The new Type CI Adjustable Indicating Thermostat is a precise temperature control for gas, liquid, and metal-to-metal applications such as ovens, hot plate presses, water baths, incubators, proofing cabinets and cold cabinets. It is most useful in units where periodic checks of temperature are required, advisable, or will prove time saving. The new Type CI is simply and rruggedly built, employing the highly sensitive response action of a solidly liquid filled bulb and bellows assembly to a snap-acting switch and indicating pointer. The thermostat is adjustable over its entire range by a knurled thumbscrew on the front of the case.

SPECIFICATIONS:

**UNITED ELECTRIC CONTROLS COMPANY**
80 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▼ BREVITY—Identify by IEN-10293 if you write the maker ▼

**DIES AND MOLDS *for any purpose***
**FINISHED FASTER AND FINER**

WITH **HYPREZ**
**DIAMOND COMPOUNDS**

Precise Shapes and Contours
Smooth, Flawless Surfaces for

PLASTICS • DIE CASTINGS • GLASSWARE
METAL FORMING • JEWELRY • RUBBER
WIRE • WATCH CASES

HYPREZ DIAMOND COMPOUNDS are available in 26 engineered standards, from rough to mirror polish. In 18 and 5 gram color-identified, sealed cartridges, for use with Hyprez Applicator Gun.

Write for instructive technique folder or free demonstration to Department E-1030.

**HYPREZ DIVISION**
**ENGIS EQUIPMENT CO.**
431 South Dearborn St. • Chicago 5, Ill.

▼ BREVITY—Identify by IEN-10294 if you write the maker ▼

**MIXING . . Column mounted machine, hydraulic elevation, for portable tanks**

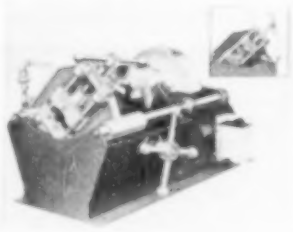
Source: COWLES CO.
501 Trackside, Cayuga, N. Y.

Model 10D-III with 38 in. of 60 range and Model 20D-211 with 24 in. range are new additions to the company's line of mixing and dissolving equipment. The smaller machine will position its impeller in the center of a tank measuring 40 in. in diameter. The larger has reach to the center of a 48 in. tank. Both can be positioned around their water-hydraulic column through complete circle of 360 degrees.

▼ BREVITY—Identify by IEN-10295 if you write the maker ▼

**THREADING . . Power pipe machine, 1/8 to 2 in., knife or wheel cutoff**

Source: TOLEDO PIPE THREADING MACHINE CO.
1443-47 Summit St., Toledo 4, Ohio



Super Model 999 designates motor driven pipe threading machine that is supplied with six interchangeable quick-opening die heads for 1/8 to 2 in. pipe, a reamer mounted on a swing arm and either a wheel and roller or a knife cutoff. The latter employs four knives that are closed in or retracted by wrench action on turning a hand lever.

▼ BREVITY—Identify by IEN-10296 if you write the maker ▼

**DRILLING . . Pressure feed head for motor drive, air or oil power**

Source: HYPNEUMAT INC.
645-49 W. Virginia St., Milwaukee 4, Wis.

Capacity is to a 3/4-in. drill or tap in steel with this new HypneuMat drilling and tapping head. It provides a 3 5/8-in. maximum stroke for its sheave-equipped spindle which is mounted in ball bearings in the quill and feed cylinder assembly. Air or hydraulic pressure is controlled through a separate valve unit actuated by an electric switch assembly that mounts on the head. This switch can be set for rapid approach, feed, dwell, rapid return as required for a given job. When reversing control is added for the motor the head approaches bargaing.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-10297 if you write the maker ▼

**THIS PUMP WON'T KEEP IT'S *BigMouth* SHUT!**

The sleek stainless outboard or inboard, and for liquid — is the Nagle Type XW-OB Vertical Shaft Pump. The sealing box, no oil-swiped bearings to mess. Lower one motion unknown. The [illegible] Type XW-OB shown made of corrosion resistant alloys, is going on million service at a large chemical plant. Catalog 4000 describes Nagle Horizontal Shaft, Vertical Shaft and Self Priming Pumps.

Qualified Representatives Everywhere

***Nagle Pumps, Inc.***
1241 Center Ave., Chicago Heights, Ill.

▼ BREVITY—Identify by IEN-10298 if you write the maker ▼

***NOW!* A 5,000 p.s.i. Hydraulic Power Unit**

. . . for operating
**RIVETERS, PUNCHES, PRESSES, SHEARS,**
and other units

● With Hannifin's exclusive "Hy-Power" Pressure Generator, you have a compact, self-contained power unit — reservoir, motor, pump, valving — all under finger-tip control from a single push button. All you do is plug it in and go to work! Up to 5,000 p.s.i. pressure is available to operate "Hy-Power" work cylinders in either portable tools or compact stationary machines for forming, punching, riveting, pressing, shearing, and similar operations. Today, hundreds of tool designers and production engineers are using this equipment to do work better, faster, cheaper! Find out what it can do for you.

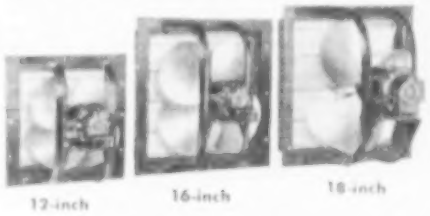
For the complete story of "HY-POWER HYDRAULICS," see your local Hannifin representative or send for a copy of new Bulletin No. 150. HANNIFIN CORPORATION, 1107 So. Kilbourn Ave., Chicago 24, Ill.

*Find out about*
**HANNIFIN**
*"Hy-Power"*
**HYDRAULICS**

▼ BREVITY—Identify by IEN-10299 if you write the maker ▼

**SAVE**

**with these NEW EMERSON-ELECTRIC EXHAUST FANS**



12-inch 16-inch 18-inch

Here's a brand new line by America's foremost fan maker . . . built for easy installation and rugged service at rock-bottom cost! Equipped with special fan-duty motors and built in automatic shutters. Large air delivery, quiet operation, fully guaranteed. Write for Bulletin No. 568.

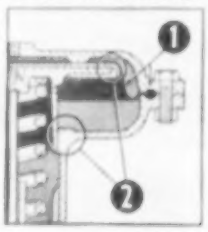
The EMERSON-ELECTRIC MFG., CO., St. Louis 21, Mo.

**EMERSON ELECTRIC**
MOTORS • FANS APPLIANCES

▼ BREVITY—Identify by IEN-10300 if you write the maker ▼

**Get TOP Performance**
*with this*
**BETTER VALVE TOP**

POWERS FLOWRITE VALVE
AIR or WATER OPERATED
CONTROLS FLOW of STEAM, WATER OIL, GASES



VALVE TOP — Durable moulded neoprene diaphragm (1) has positive sealing bead which provides increased sealing action with increasing control pressure. Efficient diaphragm form insures angle and constant operating power throughout full travel. Piston Plate Assembly (2) has a free floating throttle plate which absorbs side thrust. Closely guided piston plate maintains stem in accurate alignment.

VARIETY of VALVE BODIES — Sizes 1/2" thru 8" for low pressures below 250 lbs. psi. Rugged construction to withstand piping strains.

ADJUSTING SCREW (2) — Ball-bearing mounting type. Easily accessible. 180° turning radius with starting pressure adjustable from 0 to 17 psi. Has enclosed cast pounded steel spring for full travel in 5 to 10 psi control pressure change.

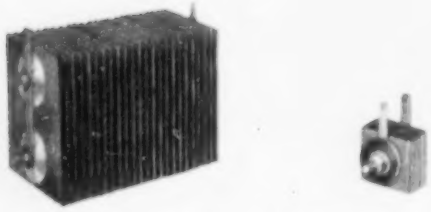
BONNET ASSEMBLY (4) — Polished stainless steel stem in performed lubricated metallic packing insures long life and low frictionless [illegible]

**THE POWERS REGULATOR COMPANY**
2737 Greenview Avenue, Chicago 14, Illinois
Established 1891 • Offices Over 50 Cities • See Your Phone Book

▼ BREVITY—Identify by IEN-10301 if you write the maker ▼

SYNTRON

offers



# SELENIUM RECTIFIERS

Made by a new process to uniform, high quality and capacity.

In extra large cell sizes as well as small cells.

Write for literature.

SYNTRON CO.

410 Lexington Homer City, Pa.

▼ BREVITY—Identify by IEN-10302 if you write the maker ▼

## ONLY SAFETY BELT HOOKS

have the patented binder bars — are rigidly mounted in double steel strips that hold hooks permanently in alignment, assuring uniform tension across the belt, maximum traction and long belt life. Moreover, these bars protect belts—lap over belt ends, prevent fraying, prevent hooks from pulling out. This better belt lacing comes in 5 sizes. It can be applied with any standard lacer or lacing machine, or, can be applied with an ordinary hammer by using the inexpensive Safety Tu-way Lacer.

Write for Circular

Safety BELT-LACER CO.

5394 N. Monard Ave.

Chicago 30, U. S. A.

▼ BREVITY—Identify by IEN-10303 if you write the maker ▼

Where "SMALL WORK" GRINDING JOBS are concerned Depend on Foredom

FLEXIBLE SHAFT MACHINES

for TOP PERFORMANCE VERSATILITY and SPEED!

Quality Tested Since 1922

Model 9050

ONLY $27.95

COMPLETE with 6-STEP FOOT RHEOSTAT and PENCIL-SIZE HANDPIECE

Bench and Hang-Up Models, also models like Model 9050 illustrated which can be hung up, set on bench or mounted under bench. 5 Handpiece types, pencil size or larger, all with quick-detachable feature. Extra good flexing qualities provide utmost freedom of movement in handpiece.

Foredoms are profitable additions to all three departments—Production, Tooling and Maintenance.

See Your Industrial Supply Distributor. If he cannot supply you write to us. Mail coupon for catalog.

FOREDOM ELECTRIC CO. Dept. N-4131
27 Park Place, New York 7, N. Y.

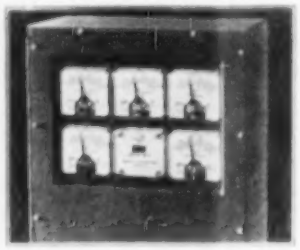
Send your catalog No. N-4131, showing different uses of Foredom Flexible Shaft Machines.

Name
Address
City & Zone State

▼ BREVITY—Identify by IEN-10304 if you write the maker ▼

## CONTROL . . Pyrometer elements in multiple assembly protect bearings

Source: ASSEMBLY PRODUCTS INC.
Bell & Main Sts., Chagrin Falls, Ohio

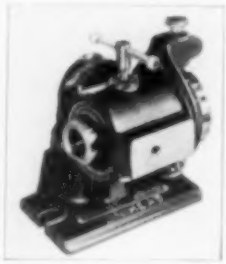


New assembly in multiple of the company's Sim-Ply-Trol thermocouple — actuated pyrometers has been made to protect the bearings on a machine in the event of overheating. A thermocouple applies at each bearing with electrical connection to one of the units. Increase in temperature above a predetermined point closes contacts to actuate a relay that will sound a signal or close the machine down. The relay contacts rate 15 amp. on 110 volt ac.

▼ BREVITY—Identify by IEN-10305 if you write the maker ▼

## INDEXING . . Head mounted spindle is supported on universal swivel base

Source: DELTA POWER TOOL DIV.
614 E. Vienna Ave., Milwaukee 1, Wis.



Hardened sleeve in the head of this recently publicized Unihead is mounted in factory-lubricated and sealed ball-bearings. It is fitted with a No. 9 B & S taper at the front end and with an index plate, selector plate and locating dog at the rear end. The index plate carries 12 slots. The selector plate is slotted so it can be positioned for selection of 2, 3, 4, 6 or 12 index positions.

▼ BREVITY—Identify by IEN-10306 if you write the maker ▼

## BLOWER . . Motor driven centrifugal 410 cfm., at 1,050 rpm. on free air

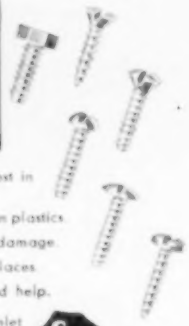
Source: SCHWITZER-CUMMINS CO.
1123-27 Massachusetts Ave., Indianapolis 7, Ind.

Balanced impeller measuring 8¼ in. in diameter by 3¼ in. in width is made of steel and is mounted on the shaft of the 1/12 hp. 110-volt ac. motor in this new blower. The housing also is made of steel and provides a circular inlet 8 in. in diameter and a rectangular outlet measuring 5¼ by 8¾ inches.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ BREVITY—Identify by IEN-10307 if you write the maker ▼

Pheoll TAPPING SCREWS Cut Assembly Costs 5 Different Ways



1 End tapping time and tap cost in sheet metal.
2 Eliminate need for tapped inserts in plastics.
3 Stop thread stripping and part damage.
4 Simplify assembly in tight places.
5 Speed production with unskilled help.

● Pheoll tapping screws—Type A Gimlet Point, Type B Blunt Point, and Type C Taper Point—save assembly time. These case-hardened steel screws are available in round, flat, oval, pan, and truss head types, either slotted or with Phillips recess, or they may be furnished with hexagon type heads. Finishes include bright steel, plated nickel, cadmium, brass, zinc or Parkerized; with chromium, bronze, etc., as special finishes. Types A and B tapping screws are carried in stock; Type C screws are made to order. Ask for further details.

Other Pheoll Products
Machine Screws, Machine Bolts, Special Screws and Bolts, Cap Screws, Machine Screw Nuts, Wood Screws, Thumb Screws, Brass Washers

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois

SCREWS • BOLTS • NUTS

Industrial Fasteners and Holding Devices

▼ BREVITY—Identify by IEN-10308 if you write the maker ▼

# How to save money in RELINING OLD FURNACES

IT'S EASY to cut down on furnace relining costs if you use B&W Insulating Firebrick. B&W IFB can be cut with ordinary woodworking tools—are easy to handle and fit into place. This alone saves you valuable dollars in production time and labor costs.

B&W IFB save on fuel, too. They have the highest insulating value of any refractory in their class and because of their light weight reach operating temperature quickly, reducing total cycle time, increasing production time available.

WRITE today for full information on B&W Insulating Firebrick. Ask for Bulletin R-2-H.

THE BABCOCK & WILCOX CO.

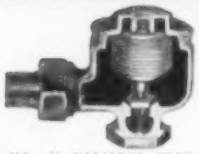
85 LIBERTY STREET, NEW YORK 6, N. Y.

WORKS: AUGUSTA, GEORGIA

▼ BREVITY—Identify by IEN-10309 if you write the maker ▼

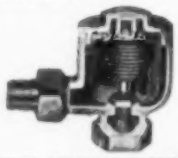
Get Set For a SOFT WINTER

INSTALL OR RECONDITION STEAM TRAPS NOW



NO. 34 RADIATOR TRAP made in 6 different styles. Low Pressure

COMBINATION FLOAT & THERMOSTATIC TRAPS.



HIGH PRESSURE THERMOSTATIC TRAPS. For industrial equipment.

A good Steam Trap . . . the RIGHT one for your exact requirements . . . softens up your whole firing season all along the line. Improves heating. Saves steam. Cuts processing costs. Important to get the right trap. To thousands of engineers for over 61 years that has meant Monash Steam Traps. There's one for every need . . . each trap a proven top performer and value.

*Like getting new Traps for Old*

RENEW WITH

MONASH ELEMENTS

FIT MOST MAKES OPERATING BETWEEN 25 IN. VACUUM & 25 LBS. PSI

Heart of the trap . . . usually saves job installing new traps. Quick, easy installation without fuss or bothering anyone. Hydraulically formed bellows. Stainless Steel Valve trim.

AIRLINE and VENTING VALVES
PACKLESS RADIATOR VALVES
AIR ELIMINATORS

WRITE FOR FREE DETAILS

MONASH-YOUNKER CO. INC.
1317 W. CONGRESS STREET
CHICAGO 7, ILL.

▼ BREVITY—Identify by IEN-10310 if you write the maker ▼

# SCHRAMM Pneumatractor

*Pneumatractor with Snow Plow*

The SCHRAMM *Pneumatractor* is a self-propelled tractor compressor recommended for operating a wide variety of pneumatic tools and auxiliary equipment for plant maintenance. The Reversible Snow Plow includes a 7-foot blade adjustable for desired angle (up to 30°) right or left.

*Write for Bulletin PRP-50*

SCHRAMM INC.

THE COMPRESSOR PEOPLE
WEST CHESTER
PENNSYLVANIA

▼ BREVITY—Identify by IEN-10311 if you write the maker ▼

## NEW FEATURES—NEW ADVANTAGES BALDWIN TYPE "L" INDICATOR

Designed for use with SR-4® gages; gage factors of 1.75 to 2.20. Battery-operated; converter available. Ask for Bulletin 912.

- **INCREASED CONVENIENCE.** Each step increased to 20,000 microinches/in.
- **GREATER BALANCING RANGE.** Range I-variable doubled to 20,000 microinches.
- **ADDED ADAPTABILITY.** Binding post connections for external bridge.
- **INCREASED VERSATILITY.** Oscillator jack for special problems.

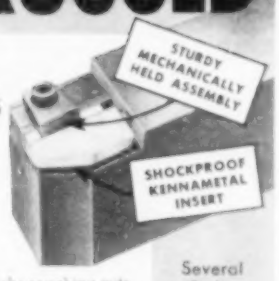
THE BALDWIN LOCOMOTIVE WORKS, Philadelphia 42, Pa., U.S.A. Offices: Philadelphia, New York, Houston, St. Louis, Chicago, Cleveland, San Francisco, Washington, Pittsburgh. In Canada: Peacock Bros., Ltd., Montreal, Quebec.

**TESTING HEADQUARTERS BALDWIN**

2604

▼ BREVITY—Identify by IEN-10312 if you write the maker ▼

## They're RUGGED




**KENNAMETAL PLANER TOOLS** *permit* **HEAVY DUTY** ***HIGH SPEED*** **PLANING**

Kennametal planer tools take roughing cuts at high speeds (100-250 ft. min.) on any newer type planer having a tool lifter.

They remove metal at a faster rate, keep machine down time to a minimum, reduce tooling cost per piece, minimize grinding time and expense.

These tools are shock proof and thermal-strain-free. With them—for the first time—*all* the advantages of high-rate carbide machining can be obtained on any good, properly powered and adjusted planer.

Kennametal Inc. is the only manufacturer of these cost-cutting planer tools. Ask our district engineer to demonstrate.

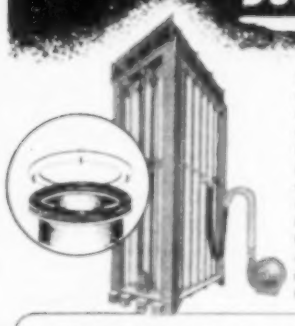
Several Styles Available

Send for Catalog 49

**KENNAMETAL Inc.**
Latrobe, Pa.
MANUFACTURERS OF SUPERIOR CEMENTED CARBIDES AND CUTTING TOOLS THAT INCREASE PRODUCTIVITY

▼ BREVITY—Identify by IEN-10313 if you write the maker ▼

## DOR-TITE By DURKEE-ATWOOD KEEPS IT DUST-TIGHT



The Day Company, Minneapolis, outstanding producer of dust filters, depends on Dor-Tite for gasketing between metal-to-metal joints on every unit. This soft, resilient sponge rubber stripping seals in dust . . . locks out air and moisture. Furnished in exact sizes needed. Dor-Tite needs no trimming, applies swiftly, helps cut production costs.

Look for money-saving Dor-Tite applications in your business. Amazingly versatile, Dor-Tite weatherstrips, insulates, stops vibration, cushions shocks, muffles noise, bars dust, air and moisture. Dor-Tite is self adhesive, grooves easily into place, bonds tightly to any firm surface without glue or nails. Patented fabric back positively prevents stretching. Available in widths and thicknesses to suit any product . . . see index or Call your nearest supply house or write direct.

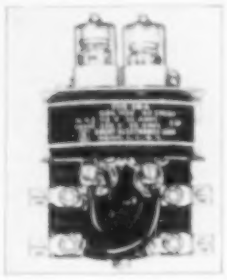
Soft Sponge Rubber for industrial uses to 36 inches wide, thicknesses ⅛ to 1 inch, in specified lengths

**DURKEE ATWOOD COMPANY**
Dept. 56, Minneapolis 13, Minn.

▼ BREVITY—Identify by IEN-10314 if you write the maker ▼

## RELAY . . Two pole mercury unit, magnetic action, 35 amp., 110-volt ac.

Source: EBERT ELECTRONICS CORP.
185-11 Jamaica Ave., Hollis 7, N. Y.

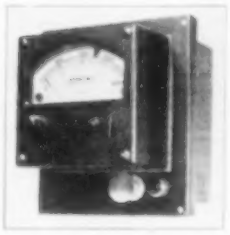


**Tungsten leads** terminate in a mercury-filled ceramic cup and seal the bottom of a sealed hydrogen-filled glass tube in each of the two contact elements in this new two-pole relay. The tube also is partially filled with mercury on which a magnetic metal plunger is floated. Surrounding the two tubes is a solenoid coil for operation on 110-volt 60-cycle ac. When this coil is energized in the normally-open design the plungers are drawn down into the mercury raising its level and making mercury-to-mercury contact at the ceramic cup.

▼ BREVITY—Identify by IEN-10315 if you write the maker ▼

## PYROMETER . . Opens control circuit and signals at preset temperature

Source: ILLINOIS TESTING LABORATORIES INC.
418-22 N. LaSalle St., Chicago 10, Ill.



**Pyrolac Type 5200** is a new design of pyrometer to protect the operation of electric or fuel-fired equipment by opening a control circuit and shutting the equipment down when temperature reaches a point set by moving a target arm over the pyrometer scale. The instrument is placed in operation by depressing a button. This action closes the control circuit and lights a pilot lamp to show active condition.

▼ BREVITY—Identify by IEN-10316 if you write the maker ▼

## GRINDING . . Vertical spindle machine to surface grind die blocks and dies

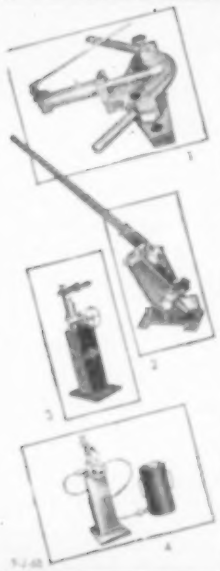
Source: PRATT & WHITNEY
49 Charter Oak Blvd., West Hartford 1, Conn.

**New die blocks** can be faced, worn dies can be prepared for resinking, dulled impression edges can be sharpened in this new machine. It is available in two sizes to take work measuring 16 by 24 in. and 36 by 42 inches. The smaller machine provides hydraulically powered table reciprocation in longitudinal direction at speeds to 20 fpm. The larger machine rates to 40 fpm.

*All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BREVITY—Identify by IEN-10317 if you write the maker ▼

## WATSON-STILLMAN



**PORTABLE PIPE BENDERS**

Bends all standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.

*Write for Bulletin A-7*

**WIRE ROPE SHEARS**

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

*Write for Bulletin A-6*

**HAND PUMPS**

Single and double plunger types, with reservoirs of different capacities to suit the job, these hand pumps have a wide application for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

*Write for Bulletin 240-A*

**HYDRAULIC JACKS**

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 10 to 500 tons.

*Write for Bulletin 710-A*

*Distributors Products Division*
**WATSON-STILLMAN**
Roselle, New Jersey

▼ BREVITY—Identify by IEN-10318 if you write the maker ▼

M & M solid blades are available up to 20" diameter; segmental blades, up to 20" diameter.

## Be Assured of Both . . . with Motch & Merryweather CUT-OFF SAW BLADES!

You get high speeds and gratifying accuracy with M & M Triple-Chip Saw Blades. Square ends without burrs, no clogging of gullet, less strain per tooth, less heat, longer life, blades re-grindable, less cost per cut. Solid (smaller) blades can be furnished also in square tooth and plastic grinds.

*Ask for our Bulletin 200 Q*

Triple Chip METHOD

**THE MOTCH & MERRYWEATHER MACHINERY CO.**
PENTON BUILDING · CLEVELAND 13, OHIO

AT YOUR COMMAND · AN UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

▼ BREVITY—Identify by IEN-10319 if you write the maker ▼

## AMAZING, NEW, WATERPROOF, GLASS-REINFORCED PAPER GLAS-KRAFT

PROVIDES POSITIVE ALL-WEATHER PROTECTION

GLAS-KRAFT is one of the strongest, toughest, most flexible, reinforced papers known. It is the most waterproof reinforced paper available. Expands up to 345% at temperatures specially treated glass yarns twisted into each square foot for all-directional reinforcement. Yarns are waterproofed under heat and pressure between two plies of fine specialty-type Kraft.

Glas-Kraft is supplied to the U. S. Government in quantity. It meets JAN-P-125 specifications for barrier wrapping material, Types E-1, E-2, E-3.

GLAS-KRAFT IS VERSATILE

- Wrapping & Packaging—Textiles, Machinery, Tires, Paper, Steel, Wire Stock, Cement, Chemicals, Furniture, etc.
- Storage—Indoor or Outdoor storage of motors, vehicles, machinery, building supplies and equipment. As temporary all-weather tarpaulins.
- Packing & Shipping—Bulkhead loading of freight cars. As cole liners and shrouds for export and domestic shipping.
- Building & Construction—As a vapor barrier or sidewall sheathing, protective floor covering, or over roofs.
- Concrete Curing—for concrete floors, driveways, sidewalks and roads.

GET GLAS-KRAFT

Investigate Glas-Kraft when you want an industrial paper to perform where others fail. Available in rolls up to 96 inches in width. Three grades. We also manufacture the revolutionary new Glas-Tape and Glas-Kraft Sealing tape for the corrugated container industry.

A Brown Paper Product By

**GLAS-KRAFT, Inc.**
LONSDALE, RHODE ISLAND
Write today for sample swatches and prices.

▼ BREVITY—Identify by IEN-10320 if you write the maker ▼

Metso Silicate Cleaners produce vigorous alkaline power, balanced with soluble silica. Speeds cleaning, prevents dirt redeposition, protects metals.

*in and out of* **METSO** *bath . . . in a minute*

. . . With surface chemically clean for plating or other finishing. That's the score in many metal plants using Metso cleaners.

Dirt removal rates with Metso cleaners are fast; for instance, removal of paraffin soil from Disc metal with Metso lock only 0.5 minute, red oxide buffing compound, 1.5 minutes.

Send for sample and further information for your cleaning operations.

*Philadelphia Quartz Company*
1131 Public Ledger Bldg., Phila. 6, Pa.

**METSO** *detergents*

▼ BREVITY—Identify by IEN - 10321 if you write the maker ▼

## The Answer to Motor Starting Problems

**PUT A MERCURY CLUTCH ON THE JOB**

By its inherent delayed action, a Mercury Automatic Clutch permits an electric motor to come up to its full effective speed instantly and without load. During the starting period, when the direct coupling of the power plant to the load is the least effective and when the torque requirements are greatest, a Mercury Automatic Clutch automatically brings the maximum torque of the power plant to the driven load.

By planning to use a Mercury Automatic Clutch, the necessity of "over-powering" a machine can be avoided. Often a smaller, less expensive motor plus a Mercury Automatic Clutch can handle the load of a swing to cold. Some other advantages of Mercury Automatic Clutches: Effective and safe operation under "low voltage" conditions . . . protection from damage caused by overload such as blown fuses, fire hazards . . . smooth pick up of load without grab or shatter . . . no load starting and idling of gasoline engines.

If the equipment you build and sell is powered by electricity or gasoline, you can add to its efficiency and sales value by including a Mercury Automatic Clutch in the design specifications. Write for new Bulletin 216-C1.

Mercury Clutch Division

AUTOMATIC STEEL PRODUCTS INC. CANTON 6 · OHIO

▼ BREVITY—Identify by IEN - 10322 if you write the maker ▼

It is the Shortest

MOTORIZED BATTERY OPERATED Walkie PALLET TRUCK built!

The MOTO-TRUC

Besides shorter overall length, Moto-Trucs have the added advantage of simplest and easiest controls—ALL is easy grip roller type handle.

12-volt power for sanitary operation and 18-volt for heavy duty or ramp operation. Less operating parts and easier accessibility—a time saver in maintenance, inspecting and servicing.

Dead man controls and exclusive braking system insure safety for both operator and loads.

*Write for Bulletin No. 50, and specifications.*

PALLET TRUCKS
HI-LIFT TRUCKS
PLATFORM TRUCKS

The MOTO-TRUC Co.
1951 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

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TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois

# OCTOBER 1950 INDEX TO ALL PRODUCTS

### How to find what you need:

**Leaf through the issue** with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

**Next use this index** to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

**Now take one subject** at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

**If you have trouble** in finding the answer to your current problem through the subjects in this issue, let us know. We can name sources of supply with the help of our sixteen-year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "I Wish I Had" column to invite suggestions.

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POWERED BY A 20 H.P., 4 CYLINDER GAS ENGINE

Indoors or out — this rugged ONE-TON Toter scoots around with loads up to capacity and at speeds up to 20 M.P.H.

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Here's the way to make your product fulfill the promise of faithful performance, by guaranteeing 5 years of sustained, failure-proof heating efficiency. Guarantee covers temperatures to 750° or 1200°F.

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Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

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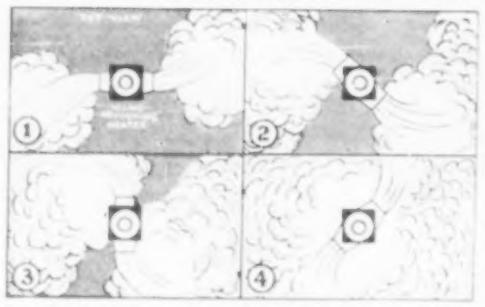


1. Heater starts. 2. 15 seconds later, 45° revolution. 3. 30 seconds later, 90°. 4. 45 seconds later, 135° revolution.

**Revolving Discharge Outlets for Thorough Heat Coverage**

Wing Revolving Unit Heaters keep the heated air moving, circulating around obstacles, seeking out far corners, spreading an even, uniform, healthfully invigorating blanket of warm air over the entire working area. Write for Bulletin HR4.

L. J. Wing Mfg. Co.
160 Freeland Mills Road, Linden, N. J.

Wing
REVOLVING UNIT HEATERS

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OCTOBER 1950


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▼ BREVITY—Identify by IEN - 10327 if you write the maker ▼

FAST — EASY PERMANENT

WIPE-ONS

for STAMPINGS, ENGRAVINGS, LETTERING, DESIGNS, SYMBOLS.

Lacquer-Stik

Just RUB IN . . . WIPE OFF . . . FINISHED!

- No Mess, No Waste, No Brush.
- Expands and contracts with parts.
- Withstands temperatures to 500°F.
- Does not smear when handled.
- Saves Time, Labor, Materials.

*For Metals, Plastics, Ceramics, Wood and all smooth surfaces.*

Lacquer-Stik is a highly specialized paint, compound and prepared lubrik for use as a wipe-on. It is semi-solidified in stik form for quick, convenient use, but soon hardens and becomes permanent.

Our Research Laboratories will study your problem and make recommendations on any parts you submit without obligation.

Samples and Literature Upon Request

LAKE CHEMICAL CO., 3060 West Carroll Ave., Chicago 12, Ill.



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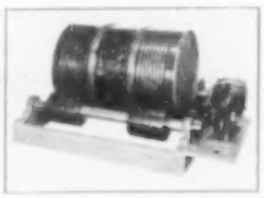
DRUM ROLLER



*Mixes in Suppliers' Drums*

AVOIDS:

The fire hazard of open drums

Contamination of one product with another

Cleaning of equipment between mixes

Residual sludge.

ASSURES:

Uniform mix

Easy inspection during operation

Withdrawals in any quantity needed

The VOL-U-METER Company

Buffalo 16, N. Y.

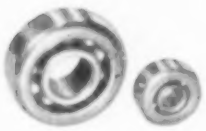


▼ BREVITY—Identify by IEN - 10329 if you write the maker ▼

A NEWS ADVERTISEMENT BY THE SCHATZ MANUFACTURING CO.

New Type "AA" Ball Bearings to Replace Precision Bearings at Lower Cost

Source: THE SCHATZ MANUFACTURING CO.,
6750 Fairview Ave., Poughkeepsie, N. Y.



Schatz Type AA "Commercial" Ball bearings are designed to replace precision bearings yet give complete anti-friction performance within their operational limits — at 2/3 to 1/6 the cost of precision bearings.

Made for speeds up to 2500 R.P.M. combined with light loads, as in vacuum cleaners, kitchen mixers, etc., these bearings are held to very close bore and O.D. tolerances. Smoothly finished race rings are carburized, hardened and tempered. Outer case of outer ring is drawn from flat, unhardened steel.

"Construction and Characteristics of low cost Ball Bearings" tells how "Commercials" can cut anti-friction costs up to 85% without sacrificing efficiency. Standard bearings are discussed as well as Special Ball Bearings designed by Schatz for individual requirements, often at no greater cost than standard bearings. This technical booklet and Catalog No. 11, which gives detailed specifications of the complete Schatz "Commercial" line, are available on request.



▼ BREVITY—Identify by IEN - 10330 if you write the maker ▼

A New VALVAIR..

with HIGH TENSILE DIE-CAST BODY AT AN Attractive Price!

Two-way knob-operated Valvair air control valve with the new type die-cast body.

Preserving all the well-liked advantages of Valvair design: "O-U" type packer, parts interchangeable and replaceable, no metal seats, standard pipe area throughout valve, etc. For air, water and oil applications up to 175 p.s.i. and temperatures to 125° F. Sizes ¼" and ⅜" only in knob-operated model only, 2-way and 3-way (open end exhaust).

*Write for Prices and Bulletin "Q"*

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio

AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair



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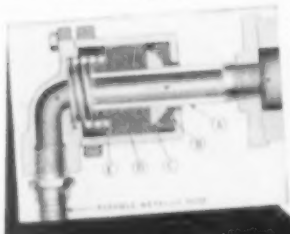
NOW . . . Self-Supporting, too

Johnson Joints first showed how a stuffing box could be completely packless, self-lubricating and self-adjusting. Now the Type S shows how such a design can be self-supporting as well. Used wherever steam or liquids must be admitted to rotating machine parts—on paper machines, driers, slashers, rubber mills, machine tools, etc. Ends threat of misalignment completely, permits much wider range of application. Its big savings are well worth investigating.



Nipple (A) is fastened to roll or drum. Exploding graphite ring (B) offers real against rotating collar (C). Outside (D) supports weight of drum or roll. Lubricating carbon graphite. Spring (E) is for initial seating only; in operation force is pressure-molded.

Write for complete facts

THE NEW JOHNSON TYPE-S Rotary Pressure JOINTS

The JOHNSON CORPORATION, 805 Wood Street, Three Rivers, Mich.



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WATER SEEPAGE in

Elevator Pits?
Basement Area?
Reservoir?
SOLVE IT with STONHARD STONTITE

This product is being successfully used by thousands of manufacturing plants throughout the country, as well as railroads, public utilities, etc.

Capable of being used against direct hydrostatic pressure, STONHARD STONTITE will overcome water-seepage and excessive porosity conditions of above and below grade masonry structures.

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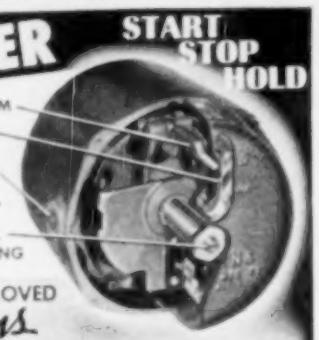
FASTER START STOP HOLD



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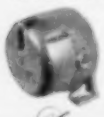
INDICATOR HAS PLASTIC COVER
LEAD WIRE OUTLET SEPARATE FROM COVER
LINING WEAR ADJ. WITHOUT REMOVING COVER

THE NEW IMPROVED Stearns MAGNETIC DISK BRAKE
STOPS COASTING MOTORS, SAVES TIME, MONEY

Here's the new STEARNS Style "H" Magnetic Disc Brake . . . designed for safer operation . . . for longer life . . . with less wear and maintenance. For effective stopping and holding of motors and machinery, this improved brake gives a faster release . . . is shorter in length . . . adaptable for floor or motor mounting . . . or for vertical or horizontal applications. Available in standard or dust-tight, water-proof enclosures direct or through major motor manufacturers. Write today for complete specifications.



Stearns MAGNETIC MANUFACTURING CO.
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. . . the Superiority of A-F ENGINEERING

A simplified method of moving finished TV sets from the production line to selected A-F Belt Conveyors running to and from testing booths to storage or shipping docks . . . and keeping the aisles clear by moving the assemblies overhead on A-F Trolley Conveyors . . . reduced costs for this television manufacturer. For information regarding modern products-handling methods, write today.

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148 Disney Street Established 1901 Cincinnati 9, Ohio
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CONVEYING EQUIPMENT
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WASHING MACHINES FOR INDUSTRY

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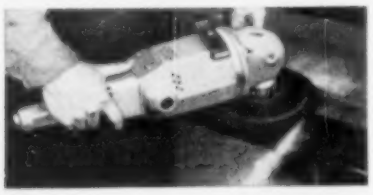
Black & Decker QUALITY in the SANDER . . .



CUTS SURFACING TIME on the JOB!

Sanding, grinding, wire brushing, wood planing — you'll save time and money doing all of them with amazingly versatile B & D Sanders — because they're quality-built as only Black & Decker knows how! Unmatched engineering features like full-power B & D universal motor; match-lapped gears for smooth, quiet flow of power from motor to spindle; full protection against abrasive dust and dirt for all vital parts. Many others. See your nearby B & D Distributor for a demonstration. Write for free catalog to: The Black & Decker Mfg. Co., 615 Pennsylvania Ave., Towson 4, Md.

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PORTABLE ELECTRIC TOOLS

## "I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

**CAPACITORS** . . . "I wish we had a buyer for a surplus inventory of Mallory motor-starting capacitors, Type C. A. P. MFD300. The units measure about 1¾ in. in diameter by 3¾ in. in length. We have 18,000 in storage in Michigan." IEN W-136

**CLAMPING** . . . "I wish we had a buyer for a surplus quantity of "Pumpe Arm" bench vises and "Disc-Squares" holding fixtures for arc welding. There are 80 pieces of the former unit and 120 pieces of the latter, all in Cleveland storage. We can supply descriptive literature." IEN W-137

**ENGINEER** . . . "I wish I had contact with an Eastern organization needing the services of a graduate mechanical engineer with 10 years of experience in designing, processing, tooling and manufacturing of aircraft, gas turbine components, automotive hardware, Naval machinery. I am in New Jersey." IEN W-138

**ENGINEER** . . . "I wish I had contact with a firm needing the services of a chemical engineer with a Master's Degree in business administration from M. I. T. and S. T. C. I am experienced as a production supervisor. Metropolitan New York." IEN W-139

**FASTENINGS** . . . "I wish we had a buyer for all or a part of our surplus stock of small tubular rivets, locking terminals, rubber grommets, carriage bolts and hollow head set screws. We have a list of this Chicago surplus stock available." IEN W-140

**NEW PRODUCT** . . . "I wish I had contact with a manufacturer to make and sell my new patented AC toggle or rocker-button switch on a license basis. A model is available." IEN W-141

**NEW PRODUCT** . . . "I wish I had contact with a manufacturer to take over my patented engine-drive conversion unit for application on hand operated lawn mowers on a reasonable cash and royalty basis or on straight purchase of my patent. The ½ hp. engine-unit weighs 18 lbs. and is suited for other portable power applications on equipment." IEN W-142

**PUMP** . . . "I wish we had contact with a company manufacturing or distributing a geared hand-pump made of stainless steel with capacity for approximately 10 gpm. handling dopes and latexes for spreading. We also need a similar pump to handle heavy viscous materials of about the consistency of molasses. It also should be made of stainless steel." IEN W-143

**SCREW DRIVING** . . . "I wish I had the name of the manufacturer who makes a pneumatic power torque-limiting screw driver with the trade name of Grip-Tyre." IEN W-144

**SNOW PLOW** . . . "I wish we had a machine to remove snow from our plant yard in winter and to sweep plant interior floors both winter and summer. We have looked for a combination machine to do both jobs but without success." IEN W-145

### ARE WE ADDRESSING YOU CORRECTLY?

You can verify this for us if you will check your address as stenciled on the return postcard included between pages 2 and 3 in this issue. Just OK it and mail it back if correct, or note on it any needed changes to make sure you will continue to receive the paper each month.

If you do not find a postcard enclosed watch for it next month as we are mailing them in rotation, state by state.

You can help us considerably in our classifications work if you will also take time to check the information against the little boxes at the bottom of the card.
Thanks for your assistance!

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MATERIAL HANDLING in Production Areas

with LYON-Raymond PORTABLE HYDRAULIC ELEVATING TABLE

THIS TABLE has UNLIMITED USES

Here are a few:

1. Die Handling
2. Sheet Feeding
3. Adjustable Section in Conveyor Line
4. Work Table or Assembly Bench
5. Positioning Work to Machines
6. Support for Overhanging Work
7. Adjustable Test Bench
8. Transfer Table
9. Positioning Parts for Attachment
10. Welding Positioner
11. Loading and Unloading

For additional information about the LYON-Raymond Hydraulic Elevating Table send for illustrated Bulletin No. 451.

We have also prepared another 16 page booklet relative to material handling in production areas. Ask for Booklet "Material Handling—At The Machine."

LYON-Raymond CORPORATION
Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning . . . Sheet and Die Handling
3526 Madison St. GREENE, N.Y.

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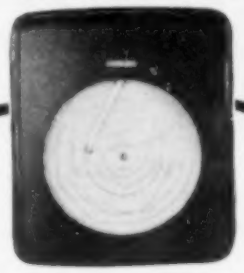

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● With but one instrument and one pH amplifier, records of as many as six pH measurement points may now be obtained on a single round chart. This means initial savings as high as 60% or more, as well as greatly simplified installation. The instrument which makes this possible is the new and altogether unique Foxboro Multi-Record Dynalog* Electronic Recorder. Supplied with flow-type or immersion-type electrodes. Foxboro Recording Controllers also available.

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FOXBORO Reg. U. S. Pat. Off. pH RECORDERS

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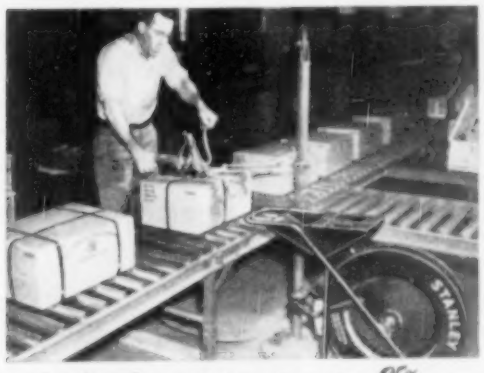


Packaging costs cut up to 25% with Stanley Steel Strapping!

—Says The Fafnir Bearing Co.

Stanley Steel Strapping is quick and easy to apply—saves man-hours and materials—gives greater protection to goods in transit. System includes tools, reels, accessories—all you need for your own application. Write for details or demonstration now! The Stanley Works, Steel Strapping Div., 143 Lake St., New Britain, Conn.

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FLOORS LAID TODAY • READY FOR USE IN 24 HOURS

Install "PERMAFLEX" HARD MASTIC any thickness required over Old Rough Concrete or Wood Floors, Aisles, Platforms, Walks or Drives. INTERIOR OR EXTERIOR. Edges are splayed to a feather edge.

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